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Bill for Federal Conservation Law Proposed by Committee of Nine

WASHINGTON, Feb. 6

A PROPOSED bill for federal oil conservation legislation which specifically declares that agreements for co-operative development and operation of single oil pools are not in violation of federal antitrust laws has been made public as a part of the report of the Committee of Nine of the Federal Oil Conservation Board.

The proposed bill also makes the Federal Oil Board the agency to declare an overproduction of crude and to permit, under safeguards, agreements among producers to restrain production from existing fields, and drilling in new fields.

What further is to be done, if anything, in drawing the form of law which the Committee of Nine believes will remedy situations such as the oil industry has been facing for the past year or so to the attention of congress is not set forth in its report to the oil conservation board, made public in Washington today. In making the report public, Secretary Work, chairman of the oil board, stated that the report of the Committee of Nine had not yet been considered by the oil board itself, nor by government technologists who have been conducting a survey into the oil business for the past three years.

"The public is entitled to know just what conclusions and recommendations the Committee of Nine determined upon," said Secretary Work. "Inasmuch as the oil board cannot conclude its own program of investigation immediately it was felt there was no necessity for withholding the report from the public until it could be finally acted upon."

The committee's work covers the period from Dec. 10, last, when it first met to organize, to Jan. 27, during which period hearings were held, written suggestions considered and the final report drafted and submitted to the oil board Jan. 28. The Committee of Nine is made up of three representatives of the oil industry, three from the minerals section of the American Bar Association and three from the government.

In addition to submitting the proposed form of federal legislation, the Committee of Nine report suggests legislation by oil producing states to allow curtailment of output in times of overproduction.

IT suggests the desirability of further study into waste of natural gas, in order that legislation may be later formulated which will forbid such waste without working injustice on the producing industry.

It also advises legislation by congress giving the secretary of the interior authority to allow operators on public oil producing lands to join in agreements for co-operative development and operation of oil pools and advises passage by congress of legislation which has already been recommended to it by the secretary of the interior removing the provisions under which he must offer for lease annually, regardless of conditions within the industry, 100,000 acres of Osage land for development by oil companies.

In general the proposed form of federal legislation removing the oil industry in its operations from some of the restrictions of the federal antitrust laws is similar to the plan used in providing for the consolidation of railroad systems and in the making of combinations for handling export trade. Agricultural combinations in restraint of trade are specifically relieved from operations of the antitrust statutes.

The Report of the Committee of Nine, in considering a legislative program for the conservation of gas and petroleum resources, divided its subject into two classes, oil produced from private land and oil produced from public land and Indian land. The greater part of the report, of course, is given over to the former part of the subject.

THE most important cause, both for the failure of the industry to recover the full recoverable proportion of oil from the ground and for recurring production out of all proportion to demand, is in the law which gives the owner of the land the right to recover from it all the oil that can be produced therefrom, the report points out, regardless as to whether or not that oil was originally in place in

Personnel of Work's Committee of Nine

Representing the oil industry; T. A. O'Donnell, California Petroleum Co.; J. Edgar Pew, Sun Oil Co.; W. S. Farish, Humble Oil & Refining Co.

Representing the minerals section of the American Bar Association; Henry M. Bates, Dean of Law School, University of Michigan; James A. Veasey, Carter Oil Co.; Warren Olney, Jr., San Francisco.

Representing the government; Edward C. Finney, assistant secretary of the interior; Walter F. Brown, assistant secretary of commerce, and Abram F. Myers, Federal Trade Commissioner.

his ground or is drained from property of others.

One remedy that has been proposed for this, the report says, is a change in fundamental law governing the right of recovery. "It is suggested that the law be changed so that each land owner be entitled to all the oil naturally in place under his land and no more, so that he may not drain oil from under his neighbor's land and his neighbor may not drain oil from under his land," reads the report.

"Putting aside the serious constitutional objections to any such change in a fundamental law of property which immediately suggest themselves, we regard this proposed remedy as wholly impracticable. It is not possible to determine with any reasonable certainty what oil comes from one man's land and what from his neighbor's. No one could, with any security whatever, produce oil from his property if his right were confined to the oil naturally in place under it, unless his property were so large that his wells could all be placed so far from his neighbor's lines as to foreclose possibility of drainage from beyond those lines.

"The proposed change in the law would, in our judgment, produce such a condition of insecurity and give rise to such extensive and interminable litigation as to prevent necessary and proper development. In our judgment, the only practical law governing the right to recover oil is that which now exists and which has been developed to meet the necessities of the case. Whatever remedy may be found upon the basis of that law and adapted to meet conditions caused by it."

CO-OPERATIVE development and production of single fields is regarded by the committee as the most effective remedy for preventing waste in failing to recover the full recoverable proportion of the oil content of oil-bearing sands in oil pools. The report does not look with favor on the use of the coercive power of the state to bring operators into agreement as to methods of development under so-called unit operations.

"For the present, at any rate, we do not believe that any such drastic and difficult expedient should be attempted as that of imposing on the owners and operators of a field, or even a small minority of them, some plan to which they do not all agree. The matter is one to be brought about by voluntary agreement, if possible. In bringing it about the state should remove any unnecessary obstacles in the way and bring to bear what pressure it reasonably can."

This leads up to the committee's first recommendation that the federal government and the oil producing states be asked to pass legislation which will remove such agreements from laws forbidding restraints on commerce.

Pointing out that it is to public interest that agreements between oil producers for curtailment of production and drilling be permitted when overproduction exists, or is threatened, the report says this can be accomplished by legislation providing;

"(a)—that during a period of overproduction or in immediate anticipation of one, agreements curtailing the development and production of oil shall not be in violation of the laws, state or federal, forbidding restraints on competition;

(b)—that a period of overproduction permitting of such agreements be deemed to exist only when so declared by suitable governmental authority, and be deemed to end when that fact is similarly declared;

(c)—that all such agreements be subject to supervision by suitable governmental authority, be filed with it as a condition of their legality, and do not become effective until they are so filed; and

(d)—that the supervising authority has the right to abrogate any agreement filed which for any reason it judges not to be in the public interest. As the granting of permission

Committee's Proposed Federal Conservation Bill

AN ACT to promote conservation of petroleum and natural gas, to avoid waste thereof, and to encourage the establishment, and maintenance of underground reserves of such minerals, and for these ends to authorize certain agreements.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the term "person" or "persons" as used in this act shall include individuals, partnerships, associations and corporations interested in oil or gas deposits, as owners, lessors, lessees, royalty owners or otherwise. The term "oil and gas pool" as used in this act shall mean that area embracing the holdings of two or more persons containing oil or gas or both that is concentrated in a single geological structure. The term "co-operative development and operation" shall mean and include any agreed plan for the development and operation of a pool, as above defined, in such manner as to avoid wasteful methods of development and production, and cause as efficient and complete a recovery as practicable.

Sec. 2. No agreement by two or more persons for the co-operative development and operation of an oil and gas pool shall be deemed in violation of any of the acts of Congress forbidding monopolies or agreements in restraint of interstate commerce.

Sec. 3. Agreements between oil producers for the curtailment of the drilling of oil wells and of the production of oil during periods of overproduction, as such periods are determined and declared as hereinafter provided, shall, when made in compliance with the conditions hereinafter provided, be deemed not in violation of any act of Congress forbidding monopolies or agreements in restraint of interstate or foreign commerce. No period of overproduction shall be deemed to exist, for the purposes of this act, unless and until the same has been publicly declared to exist by the Federal Oil Conservation Board, consisting of the Secretary of the Interior, the Secretary of War, the Secretary of the Navy, and the Secretary of Commerce, nor shall any such period be deemed to continue after said Board has publicly declared the same to be ended. Said Board is authorized to investigate and ascertain from time to time whether a state of overproduction of oil exists within the United States, and the district or districts wherein it exists, and if in its judgment such state does exist, to declare publicly, in a manner to be prescribed by the Board, the existence of such state and the district or districts wherein it exists, and in similar fashion to determine and declare that such state is at an end.

Every such agreement shall comply with the following conditions:

(a)—It shall be in writing and be filed with the Federal Oil Conservation Board.

(b)—It shall by its terms expressly provide (1) that it shall not be operative until it has been filed with said Board, (2) that it shall not be operative except during a period or periods of overproduction, as the same are determined and declared by said Board, and only within the district or districts within which a state of overproduction is so declared to exist, and

(c)—That it is subject to disapproval by said Board at any time on the ground that it is not in the public interest, and upon such disapproval and notification thereof to the parties, in such manner as may be prescribed by the Board, shall at once cease to be operative.

The Federal Oil Conservation Board is authorized to prescribe necessary and proper rules and regulations and to do any and all things necessary to carry out and accomplish the purposes of this act.

for such agreements would be a conservative measure, and as, also, it might be a matter of distinct importance, it would seem not unfitting that the governmental authority which might declare when such agreements could be made and the period for which they should be effective and have supervision over them, should be the Federal Oil Conservation Board itself.

"The third section of the form of an act by Congress, appended hereto as Appendix "A", has been prepared by us for the accomplishment of this purpose. It should be followed by legislation by the oil producing states, granting as to their laws a similar permission when such permission is given by Federal law."

The committee reports it is unable at present to determine what form legislation should take forbidding waste of gas in oil production. Whatever legislation is undertaken must be state legislation, it is pointed out. "Ill-advised legislation, no matter how well intended, might do great injury and great injustice. For example, we doubt exceedingly the wisdom of legislation which would simply forbid without any exception the escape of any gas not put to beneficial use after leaving the well. Conditions in the various fields differ so greatly and actual development has proceeded so far under present practices that an inflexible rule such as that just mentioned might well mean that some fields would have to be shut down. If the measure is too drastic as applied to existing conditions and is so harsh as to work grave injustice, it defeats itself in actual operation and runs the danger at least of being held unconstitutional."

The report gives short space to recommendations for legislation applying to public and Indian lands. It includes, in addition to a copy of the proposed federal law, the report of the technical sub-committee of the American Petroleum Institute Gas Conservation Committee, presented at Chicago Dec. 2 at the meeting of the institute committee prior to the institute convention.

Transcontinental Surveys Trunk Pipeline Route

HOUSTON, Feb. 2.—Although construction plans still lack confirmation, surveys are being continued along the route of a proposed 440-mile pipeline of the Transcontinental Oil Co., from Yates field, in the Pecos county part of the west Texas salt basin, to the Gulf Coast. A party of 18 men, headed by Z. C. Zethries and Ike Hudson, are now surveying through Sutton county. It is expected about six months will be required to build the 10-inch, 30,000-barrels capacity line after construction details have been decided upon.

Committee's Definition of Conservation

We take it that true conservation does not mean the withholding from present use of the Nation's natural resources. It does mean that those resources should be drawn upon without waste and in orderly response to the economic needs of the country. We have devoted attention to ascertaining to what extent and in what manner waste occurs in the production and use of oil, and to how and why the production of oil is not in orderly response to the country's economic demand for it.

Gasoline Makers Strike At 'Gyp' Practices

TULSA, Feb. 6.—The Natural Gasoline Association of America has begun a campaign designed to curb a recently discovered practice of some oil brokers, directors have announced. It was discovered that a few brokers have been buying one grade of gasoline and selling it as a higher grade.

To stamp out the practice the association is asking all manufacturers of natural gasoline to show on bills of lading sent to consignees the grade of gasoline shipped. All members of the association will do so at once. If Grade A is sold, for example, the shipper will stamp on bills of lading, "Sold and guaranteed as Grade A."

The alleged sharp practice of certain brokers consisted of buying Grade B from manufacturers and selling it as Grade A or Grade Double A. When cars reached the buyers naturally the shipments did not meet the standards of the grade agreed to be delivered by the broker. As a result the buyers weathered the cars down to proper specifications before unloading and deducted the outage from the payment.

In some cases where large orders of gasoline were sold it is charged that brokers had their own men at the loading rack of the buyer to do the weathering. In other cases the buyer's loading rack man was induced to weather the cars, thus making him an innocent party to a fraudulent transaction.

Losses to manufacturers are said to have been large due to these weathering outages, the payment of freight on gasoline to destination and the stigma of having been guilty of substitution. The association will ask all buyers of natural gasoline to observe their bills of lading and compare with purchases to see whether the grade shipped agrees with that purchased through the broker. Bills of lading go direct to the buyer in all cases.

Accountants to Hold Regional Meetings

NEW YORK, Feb. 2.—Regional meetings of subcommittees of the American Petroleum Institute's committee on uniform methods of oil accounting will be held this year, following reorganization of the general committee whose membership has been reduced to 11. There are five regional members of the general committee who will be chairmen of the subcommittees, and six members at large.

Regional members are: Eastern region—H. F. Davis, Standard Oil Co. of New Jersey, New York; Appalachian region—F. S. Reitzel, Sun Oil Co., Philadelphia; Mid-Continent region—George F. Winters, Phillips Petroleum Co., Bartlesville; Texas-Louisiana region—Ira McFarland, The Texas Co., Houston, and California region—George H. Forster, Union Oil Co., Los Angeles.

Members-at-large are: H. A. Gidney, Gulf Oil Corp., Pittsburgh; B. W. Letcher, Standard Oil Co. of California, San Francisco; C. H. Jay, Pure Oil Co., Chicago; George F. Smith, Continental Oil Co., Denver; Paul R. Jones, H. L. Doherty & Co., New York, and M. W. Mattison, A.P.I., New York.

Mr. Mattison is chairman of the general committee and J. A. McNally secretary.

Two meetings a year of the general committee will be held. This committee will act as a clearing house for all accounting problems which anyone in the industry may submit. Regional meetings will begin in May. The regional subcommittees will consist of not less than five nor more than nine members.

Engine Manufacturers Discuss Problems

CLEVELAND, Feb. 7.—The Society for the Development of Internal Combustion Power discussed oil and gas engine problems at meetings here Feb. 2 and 3. A paper about Diesel engines was read by Prof. P. H. Sweitzer, State College, Pa. Mr. Petty, chief metallurgist, Superior Gas Engine Co. discussed problems involved in the use of sulfur gas in the oil fields. Informal discussions completed the program.

C. F. Fithian, sales manager, Bessemer Gas Engine Co., Grove City, Pa., was chairman of the meetings. Harry Botsford, Titusville, Pa., who handles the publicity and promotional work of the organization, acted as secretary.

Meetings are to be held at intervals, probably in Cleveland, at the call of the executive committee.

Profits for 1928 Entirely Up to *You*

By Warren C. Platt, Editor

THE oil industry faces a most profitable year for 1928 if each company will use some plain common sense in the control of its refinery output and the management of its marketing business.

The same can be said of the crude oil producing branch of the business, but there are some complicating factors that make a profitable handling of the crude situation more difficult.

But the profitableness of refining and marketing operations are entirely within the control of each individual company.

The industry doesn't need a Moses to lead it out of its troubles, no "umpire", or "dictator", nor in fact does it need the much talked of "leadership" on the part of its "natural leaders" that we hear so much about. Wishing for some one to come along and give us a million dollars overnight is just as ridiculous as praying loudly, for "leaders" to GIVE us a profit without any effort or thinking on our part.

However some co-ordinate, sensible thinking is necessary and here the heads of the big units of the industry have excellent opportunity to set a glorious example, but at the same time the smaller units will not be absolved from the responsibility for doing the same thinking and using the policies that should result from that thinking.

The oil industry for years has been in trouble because its members have failed, or perhaps refused, to recognize that the gasoline market is ready-made for the industry, that the industry has no control over the character or extent of it, that there is nothing that the industry can do in any particular few months' period to increase this market. And the industry has refused to recognize, therefore, that the only controlling factor on price is the relation of the supply to the demand—that if we produce too much gasoline we cannot avoid getting a low price, and if we produce too little gasoline we will most certainly get a higher price.

The industry cannot go out and "sell" at a high or profitable price if at the same time it offers the public more gasoline than it can or will consume. No matter how much "salesmanship" or "advertising" is used a profitable price for the industry as a whole is simply impossible if we over-produce the market. That we over-produce the crude oil market should have no bearing whatever on our over-producing the refinery and consuming markets.

If the refiner cannot see ahead of time that he is going to make a profit from making up the products of crude oil, he should not run the crude, nor buy it in the first place.

The big company operator who figures he can afford to run his refinery at a loss in order to provide a market for his crude oil at what he thinks is a profit, is fooling no one but himself and is running as rapidly as he can toward a day of reckoning when the stockholders in self protection will be forced to drop him from the management.

The outstanding reason for believing that 1928 may be a most profitable year is the fact that the above business philosophy may be percolating executive heads in the oil business, an impression that one may be warranted in having from the fact that the government figures for 1927, just released, show that, for the first time in many years, we wound up the year with less gasoline in storage the country over than at the beginning. That came about only by restriction of output, by submerging one's ambitions a bit and not increasing refining capacity, refinery output and marketing outlets unnecessarily.

IF THIS fact has finally got into the oil industry's head there is no reason why the industry cannot go on from here and always have a profit.

Providing the industry keeps this fact well in mind here is another good reason why this year should be profitable.

The tremendous increase in good roads is, seemingly, finally having a most material effect in getting much greater use of automobiles and trucks. The increase in gasoline consumption in the 35 states having complete figures from the gasoline tax returns, for the first eleven months of 1927, was 11.3 per cent against an increase in automobile registrations in those same states of 5.6 per cent.

In other words the gallonage increase was twice the increase in automobiles. If you will analyze the list of states with their respective increases, published with this story, you can readily see, with your own knowledge of the improvement in roads in your territory that greater use of cars is pulling up the gasoline business faster than the coming of new cars. How much more that increase in use will grow is difficult to predict because of the many factors affecting it. However, the industry should be safe in expecting some increase in gallonage from that cause.

But in looking at these hopeful signs on the horizon for the refining and marketing end of the business, it is absolutely necessary that each man, from the head of a big company down to the small refiner and the jobber with a single bulk or service station, apply this common sense business philosophy to his own conduct during the year.

The first man who "hunches"

HOW AUTO REGISTRATIONS COMPARE WITH GASOLINE CONSUMPTION FOR ELEVEN MONTHS 1927, OVER 1926

	% Gasoline Change	% Auto Change
Alabama	+17.3	+ 7.9
Arizona	+24.1	+ 1.2
Arkansas	— 1.8	— 1.3
Delaware	+20.4	+ 5.1
Florida	—13.3	—12.7
Georgia	+12.6	+ 8.2
Idaho	+ 7.8	+ 7.4
Indiana	+13.1	+ 5.3
Iowa	+13.1	+ 2.6
Kansas	+12.5	+ 2.1
Kentucky	+12.3	+ 2.4
Louisiana	+11.4	+ 6.4
Maine	+19.4	+ 7.5
Minnesota	+ 9.8	+ 2.5
Mississippi	+10.7	+17.2
Missouri	+ 1.0	+ 3.6
Nebraska	+10.9	+ 1.1
Nevada	+17.6	+ 7.3
New Hampshire	+15.5	+ 7.8
New Mexico	+23.4	+10.4
North Carolina (a)	+12.4	+11.6
North Dakota	+17.9	+ 1.8
Ohio	+12.3	+ 5.1
Oklahoma	+18.1	+26.3
Oregon	+12.0	+ 4.9
Rhode Island	+10.9	+ 8.8
South Carolina	+13.6	+10.4
South Dakota	+17.8	+ 0.8
Texas	+14.5	+ 5.8
Utah	+15.1	— 3.2
Virginia	+16.5	+ 4.6
Washington	+10.0	+ 60.
West Virginia	+18.0	+10.7
Wisconsin	+16.8	+ 5.5
Wyoming	+12.4	+ 5.6
TOTAL	+11.3	+ 5.2

(a) 1926 totals for North Carolina have been slightly revised.

over will start trouble which will involve the whole industry.

The safe procedure would be to assume that, although there was an increase of more than 11 per cent in gasoline consumption in this country last year (1927), that this year it will be less by a per cent or two at any rate. This planned increase can be quite conservative without danger to the country; for there is plenty of crude available on quick notice all this year, there is plenty of idle refining capacity, about 20 per cent at the present time the country over, and refineries are most flexible these days.

THE industry for years has not had to see HOW MUCH gasoline it could turn out. When the pressure for quantity comes many a refinery executive is liable to be even badly shocked at how much MORE gasoline he can make and how quickly and easily he can do it than he thought. Also there is a reasonable amount of gasoline in refinery storage, amounting to more than a month's supply.

So there would be no danger in the industry making its plans for a smaller increase in business this year than last. Tying into this planning should be one's opinion of business generally but right now that looks good. However, if business generally should decline, gasoline gallonage undoubtedly would also.

This planning for 1928 business must be brought right down to each company's business, no matter whose it is nor where it is. No company can be an exception.

Each individual unit in the oil business must study carefully and exactly just what market he can reasonably expect to get and hold AT A PROFIT. Conservatively, one should plan on making a smaller increase in his business than last year. What the country as a whole may do may not be the same as what one's particular territory will do, whether it consists of a dozen states, a county, or a single city block.

TAKE the particular territory that you have had the past year and plan to cover it only to the extent and in the places where you can do so at a profit. Only plan for increases where you are certain those increases will come at a profit.

That you enjoyed a certain volume of business in a territory last year is no sign you will get it this year, let alone have an increase.

Railroad freight rates, the establishing of bigger and better refineries at more advantageous points, will greatly affect a refiner's territory for his tank car shipments. It will take careful figuring for a refiner to plan his PROFITABLE territory this year but nevertheless it can be done. If it isn't done the chances favor an unprofitable year, not only for that refiner but for many others who may come into competition with him.

For the marketer the task is simpler, because one can easily check the number of cars owned and kept in a district around a service station, one can easily estimate whether that number will be materially increased, by studying the real estate development of that district. From one's own knowledge of the condition of roads in a town and county and from previous year's business, a marketer can easily work out pretty accurately what profitable business he can expect for a given service station, then for a bulk station and then for his business as a whole.

Against expectations, one should figure on the possibility of a competing refiner having, by true bookkeeping methods, a lower cost, as well as maybe a lower freight rate; that another marketer may have such better management that he also has a lower operating cost.

No two companies have exactly the same degree of efficiency of management, so somewhere one may quite likely be the oil man who is confronted with competition of another of lower costs.

The tendency of the companies with lower costs will be to cut the price to get the business. While much is often said urging a man with low costs to charge the customer what the high cost man does and keep the difference as profit, it appears to be seldom done in business.

Whoever plans to get more business this year than "his share", as above outlined, does so at his peril and the possible peril of the industry. He will be challenged the minute he steps over the line because he is going after the "other man's share" who is not going to give it up peacefully in all probability. If the aggressor is not prompted by the soundest of business reasons, he will have a fight on his hands that probably will run away with the profits before he realizes it.

But there can be no doubt but that 1928 will be a year of real profit, especially in refining and marketing, if each man will sit down and CONSERVATIVELY and profitably plan his business for this year and stick to that plan.

The minute one lets greed for gallonage govern, his profit is gone and so will be the profit for all the rest in the business.

Good profits for this year are in your hands, the YOU, whose two eyes are looking at this paragraph right now. Not the other man—but YOU.

Tulsa and the Air Mail

AN ASSISTANT postmaster general has informally answered the petition of the Tulsa Chamber of Commerce for establishment of air mail route Tulsa to St. Louis by suggesting that Tulsa go west with her mail to Ponca City, which now is on the line from Kansas City to Dallas.

A less satisfactory plan could not be devised. Tulsa wants to go east with her fast mail, not west. The only reason for sending letters by the air route is to save time. Business men want their letters to make faster time by air than by train. When they don't they send them by train and save money.

Tulsa's Chamber of Commerce committee that is working on this Tulsa-St. Louis project is renewing its request. The route is a feasible one. Besides Tulsa, with an enormous volume of mail which would go over the air route, intermediate points of consequence are Miami and Joplin, important mining towns, and Springfield, Mo.

It would be well for people in the east to realize that Tulsa is not on an air mail route. Considerable mail is started to Tulsa by air. It gets to Oklahoma City—then waits for a train to rescue it. No time is saved and money is wasted. Let these people who now think they are reaching Tulsa by air mail add their voices to the protest Tulsa is making against being summarily disposed by the postoffice department.—L.E.S.

Wax-Free Oil Claimed to Pour Below Zero And Hold Viscosity in Hot Engine

By Paul Truesdell
N. P. N. STAFF WRITER

FORT WORTH, Feb. 4

A MOTOR oil that will pour freely out of a can at 32 below zero and has a viscosity of 90-100 seconds at 210 Fahr.

These are the characteristics of the New A. M. L. O. oils for automobile and aircraft lubrication that have recently been developed by the Texas Pacific Coal-Oil Co., according to Dr. E. R. Lederer, vice president of the company in charge of refinery operations.

The new oil, on which Dr. Lederer and his chemists have been working for more than a year, is now being made commercially at the company's Fort Worth refinery and is being marketed to a limited extent. The refinery will shortly have capacity to make 20,000 gallons a day of the new oil.

The chief features of the oil, Dr. Lederer says, are that it is made from a pure paraffin base crude and that it is entirely wax free. The discovery that Dr. Lederer has contributed to the refining art is how to dewax the oil completely. His oil, tested by A. S. T. M. method for determination of wax, shows it to contain absolutely no wax, he states and the cold-test test is from 10 Fahr. to zero.

Published reports of Committee D-2 of the American Society for Testing Materials state that oil having a cold test of 20 Fahr. contains 2.8 per cent of wax; oil of 24 cold test 4.5 per cent of wax and wax free oil has a cold test of 13 degrees Fahr.

Few paraffin base oils are manufactured with a cold test lower than 20 Fahr. and many are as high as 30 cold test. Dr. Lederer found the figures of Committee D-2 on wax content, as related to cold test, checked his own pretty closely except that with his oil, a Ranger crude, a completely wax free oil, has a cold test of 10 degrees or lower.

It has long been believed that there is considerable relation between the amount of wax in an oil and the amount of tarry or carbonaceous matter. The latter, of course, is what makes the carbon deposit in the engine. It has been suspected by many that, if the wax could be taken out more nearly completely, the carbon residue test of the oil woud be improved, that is, that particular oil would deposit less carbon in the automobile engine during operation.

Dr. Lederer's work seems to prove

DR. E. R. LEDERER
Vice President—Texas-Pacific Coal & Oil Co.

this. In addition to a low cold test his oil has also an exceedingly low carbon residue by the accepted Conradson test method. Here are the two automobile grades of A. M. L. O. oil, their characteristics and the purposes for which they are designed:

No. 840, for use in cars driven at ordinary speeds and incapable of the highest speeds, a medium duty oil:

Flash	425-435 F.
Fire	490-500 F.
Vis. at 210	60-65 F.
Cold test	10 — zero
Carbon residue	Under 0.5 per cent

Corresponds to S. A. E. viscosity number 30.

NO. 850, designed for heavy duty, for Packards, Lincolns, Cadillacs, Marmons, Stutzes, Pierce Arrows and other cars of that class that can and generally do travel at really high speeds for long distances. This oil is also designed for buses which make long runs at high speed:

Flash	430-440 F.
Fire	490-500 F.
Vis. at 210	75-85 F.
Cold test	10 — zero
Carbon residue	0.5 to 1 per cent

S. A. E. viscosity number 40.

Dr. Lederer makes a strong point of the fact that the new oil is a straight distilled, homogeneous product and not a blend of bright stocks and light neutrals. He states his opinion that an oil of this character, where the hydrocarbons have not been separated and put together again in another arrangement, is superior to a blended oil, although there are some technologists who do not agree with him.

The oil is made by the long residuum process, which has been described in NATIONAL PETROLEUM NEWS issue of May 20, 1925, page 58. It is acid treated and filtered by the contact method. The running schedule of the plant and a description were published in NATIONAL PETROLEUM NEWS June 2, 1926, page 35, and June 30, 1926, page 43. Dr. Lederer says that the results he gets in the new product are due to changes made in the method of acid treating the oil; changes in the acid used; changes in methods of chilling and centrifuging.

FOR some time now, refinery technologists and automotive engineers have been striving toward an ideal oil that would maintain its viscosity at the high temperatures developed nowadays in hard-driven engines and at the same time remain fluid enough after standing all night in the cold, so that the engine would start without undue wear and tear, drag on the battery and dilution of the crankcase oil from excessive use of the choke. The development of Iso-Vis was an attempt to meet this condition because it was realized that, if you put into the crankcase an oil light enough to permit an easy start, it is too light to lubricate properly the engine when it gets hot; while if you put in an oil of sufficient viscosity to give proper lubrication to the bearings in operation, it will be too stiff to start the car on a cold morning.

Until rather recently it was generally believed an oil of low cold test assured an easy start, relatively. Now this belief is largely abandoned. Fluidity at low temperature and stability at high temperature is what is sought for now and it is held that you can have low cold test in an oil and still not have satisfactory fluidity at low temperatures. It is a fact, however, or at least it is the general opinion that oils with satisfactory fluidity when cold do have low cold test.

The answer to the problem is getting all the wax out of the oil, ac-

cording to Dr. Lederer and this is what he does in his new process. He states that actual tests have proved that, with A. M. L. O. oil in the crank case, and at the starting pressure of from 5 to 7 pounds, an engine started cold gives twice the number of revolutions while developing the same power that it does with asphalt base oils or other paraffin base oils in the crankcase.

Dilution of the oil in the crankcase, Dr. Lederer believes, is almost entirely due to excessive use of the choke in the effort of the driver to get his car started and warmed up. As tending to prove his, he cites the following tests that were made on engines in actual service, one a bus and one a Franklin coupe. The bus was a Mack traveling regularly between Fort Worth and west Texas towns.

This bus was filled with No. 860 oil, the extra heavy grade designed for airplane use and was driven in daily service for 1260 miles. At the end of that time it showed, as compared with the original oil:

	Used	New
Flash	250	460-470
Fire	515	530-540
Vis. at 210	104	90-100

Dilution was 5 per cent. The test was made jointly by a Texas Pacific engineer and a bus company engineer.

The Franklin was filled with No. 850 A. M. L. O. oil and driven 1200 miles without any oil being added. It was given hard service in daily traveling between Austin and Fort Worth, the average temperature during the test being 8 degrees Fahr. When the oil was taken out it showed 3 per cent dilution and the oil had a viscosity of 75 and 210 as against 78-85 for the new oil.

R. E. Wilson of the Standard of Indiana, inventor of Iso-Vis, has stated that he found oils in general to show 10 to 15 per cent dilution after 250 miles or so of winter driving.

The question of lubricating high-speed cars is serious, refiners and automobile engineers agree and it will become more serious the faster the cars are driven. If it is a problem in automobiles where failure of lubrication usually means at worst only a big garage bill, how much more serious is it in airplanes where failure of lubrication may mean loss of life?

DR. LEDERER says that a great many fatal accidents in airplanes have been due to improper lubrication, not always the fault of the oil but frequently so. Besides, the troubles of servicing an airplane in cold climates have made winter operation exceedingly expensive and frequently hazardous.

For instance, he says it is a common sight to see at an aviation field in the winter a number of 5-gallon cans of oil sitting on stoves, keeping warm. Before starting an airplane, he says it is often necessary to spend an hour or so warming up the oil lines with a blow torch.

With A. M. L. O. an aviator can start from Fort Worth in the summer at a temperature of say 110 Fahr. and fly over the Rocky Mountains, perhaps 20,000 feet in the air, through snow storms and below zero weather without any change whatever taking place in his oil. What Dr. Lederer has really done is remove the effect of weather conditions on lubricating oil.

At the beginning of this story it was stated that the A. M. L.O. will flow at 32 below zero. Dr. Lederer says C. M. Henderson, Rocky Mountain manager for Texas Pacific actually saw a pilot on a commercial flying field in Great Falls, Mont., pick up a can of A. M. L. O. No. 860 without being heated, with the temperature at 32 below, and pour it into the engine of an airplane.

TWO grades of A.M.L.O. oil are made for airplanes. These are No. 860 and 870. Their characteristics are:

No. 860

Flash	460-470
Fire	530-540
Vis. at 210	90-100
Cold test	10 to zero
Carbon residue	1 to 1.25 per cent

S. A. E. viscosity number 50.

No. 870

Flash	480-490
Fire	560-570
Vis. at 210	115-125
Cold test	5 to zero
Carbon residue	1 to 1.25

S. A. E. viscosity number 60.

I saw Dr. Lederer here in Fort Worth just after he had returned from a meeting of the Society of Automotive Engineers in Detroit. At that meeting, in a paper entitled "Motor Oil Characteristics and Performance at Low Temperatures," by R. E. Wilkin, P. T. Oaks and D. P. Barnard 4th, of the Standard Oil Co. of Indiana engine laboratory, this statement was made, in discussing resistance to starting found in experimenting with various oils:

"Data indicate consistently that the cranking efforts observed were determined by oil viscosity and evidently by viscosity corresponding to fairly high shearing stresses. The deviations could not be correlated with any pour test effect and, within the range studied, pour test appeared to have no effect on ease of starting."

And again, in the same paper, the statement was made.

"Unfortunately, the types of crude which yield oils with a low temperature coefficient (tendency to lose viscosity at high temperature) generally tend to give rather high pour tests and conversely, those oils which naturally have low pour tests also have very large viscosity-temperature coefficients. Since a low temperature-coefficient of viscosity is of more fundamental importance at both high and low temperatures, it appears logical to emphasize this characteristic and to eliminate or minimize the effects of pour test by enlarging pump inlets, which would also help to eliminate clogging by ice crystals.

"An oil with both characteristics is the ideal for low temperature operation."

Dr. Lederer says he has an oil with both characteristics.

Dr. Lederer says that in discussion of this paper above quoted, Mr. J. H. Geisse chief engineer of the aeronautical engine laboratory. Navy Yard, Philadelphia, showed with slides covering recent tests he had made on a special paraffin base and an asphalt base airplane lubricating oil, that the fluidity at low temperatures of the paraffin base oil much superior to the asphalt base oil and that, at the same low temperatures and at the same pressures, the paraffin base oil gave twice the number of revolutions than were obtained with the asphalt base oil.

THE Texas Pacific Coal & Oil Co. is now selling this oil in drums through its 26 bulk stations in west Texas and is getting 45 cents a quart for the motor grades. The airplane grades will come higher.

It is planned to develop a selling organization to cover the country, the new oil being sold only in drums and 5 gallon cans and not in tank car lots.

New Gasoline Market

AN ARTICLE on a new market for gasoline—that for cooking stoves and radiant type of heaters—will be published in NATIONAL PETROLEUM NEWS by Staff Writer J. C. Chatfield in the issue of Feb. 15.

Based on estimate consumption per unit in service cooking stoves use approximately 90,000,000 gallons a year; the radiant heaters use approximately 15,000,000 gallons. This is a sizable gasoline market at present, and one that shows indications of developing, —at a time when the oil industry is seeking new outlets for its products.

The article discusses modern developments of these gasoline stoves, the problems involved and how they are being solved to produce a satisfactory gasoline for this market.

D. V. Stroop Joins Institute Staff

NEW YORK, Feb. 4.—David V. Stroop, an associate engineer with the U. S. Bureau of Standards at Washington for four years, has joined the staff of the American Petroleum Institute, it is announced in an institute bulletin. Fire prevention and safety, corrosion, oil pollution and railroad and automotive transportation are among Mr. Stroop's duties which will be along engineering lines.

When You Scent Last Year's Eggs You Near a West Texas Field

General View of Iraan, Yates Field "Boom" town, nestling in valley of the Pecos River

By Paul Wagner
N. P. N. STAFF WRITER

AFTER another periodical motor trip over the dust-laden terrain of west Texas the writer believes he has experienced, in a different way, at least a part of that mixture of emotions that must have palpitated in Colonel Lindbergh's breast when he hopped off through foggy skies, bound from New York to Paris.

The way between was indeed obscure for Colonel Lindbergh, made perilous by storm and fog and cloaked in mystery. For my traveling companion and I, a bumpy, twisting series of detours led ever westward in the Permian salt basin region of Texas as we plunged from the end of the pavement, west of Abilene, one Sunday morning in January.

Our objective was clear. Both of us had been over the general area many times; but there were new spots to visit, some of them uncharted and many clouded by seas of seemingly impenetrable dust.

My companion remarked as we neared the salt basin area that he fully anticipated a real thrill in his old age, which would be provided at some indefinite time in the future, when he could travel over a paved road across Mitchell county, Texas.

I dare not repeat verbatim his remarks when he read the sign on the county line:

"You Are Now Entering Mitchell County, The Home of Prosperity."

It is a fact that Mitchell county is prosperous. He says "it should be; they've never spent anything on roads." Paving across the county, however, is now under way. When completed it will provide a first-class avenue of travel through one of the most interesting and beautiful parts of the route between Shreveport, La., and El Paso, Texas.

Mitchell county has to its credit two small oil fields near the eastern rim of the Permian salt basin geological province; also there is located at Colorado City, the county seat, a 5000-barrel refinery owned jointly by the Anderson-Pritchard Oil Corp., of Oklahoma City, and the California Co., Rocky Mountain and Texas subsidiary of the Standard Oil Co. of California. The California Co. also maintains operating headquarters for Texas at Colorado City.

THE two fields in Mitchell county are Westbrook and Iatan, mainly controlled, respectively, by the California Co., and the Magnolia Petroleum Co. Together they have produced roundly 5,000,000 barrels of oil since the Westbrook field was discovered some seven years ago. Westbrook is past the development stage, its 139 producing wells, Jan. 1, 1928, averaging 24.5 barrels each daily. The half-dozen wells in the Iatan field, seven miles southwest of Westbrook, produce similarly; but the area has not been developed because of complete acreage control by the Magnolia and California companies. Each company keeps one rig running there most of the time.

The accompanying is the first in a series of five articles Mr. Wagner has prepared based on data gathered on his recent auto trip over west Texas. The second article, to appear in Feb. 15th issue, will discuss conditions in the Yates pool, in Pecos county.

After leaving the Iatan field we proceeded across the southeast corner of Howard county, coming at length through devious and labyrinthine twistings and turnings along the way to the Chalk shallow area. Its various stages of development, from east west, have furnished heartaches and thrills, disappointments and rewards.

The Chalk field was discovered by Owen & Sloan, April 1, 1926, since which time roughly 1,250,000 barrels of crude have been produced from about 110 wells now averaging around 58 barrels each daily. Chalk development at 1500-1800 feet undoubtedly led to discovery of the deeper lime pay found in the Magnolia's Dora Roberts well, in W&NW block 29, sec. 136, near which important testing operations are now under way. The Magnolia well made maximum daily production of about 2300 barrels at completion depth of 2900 feet, a few months ago.

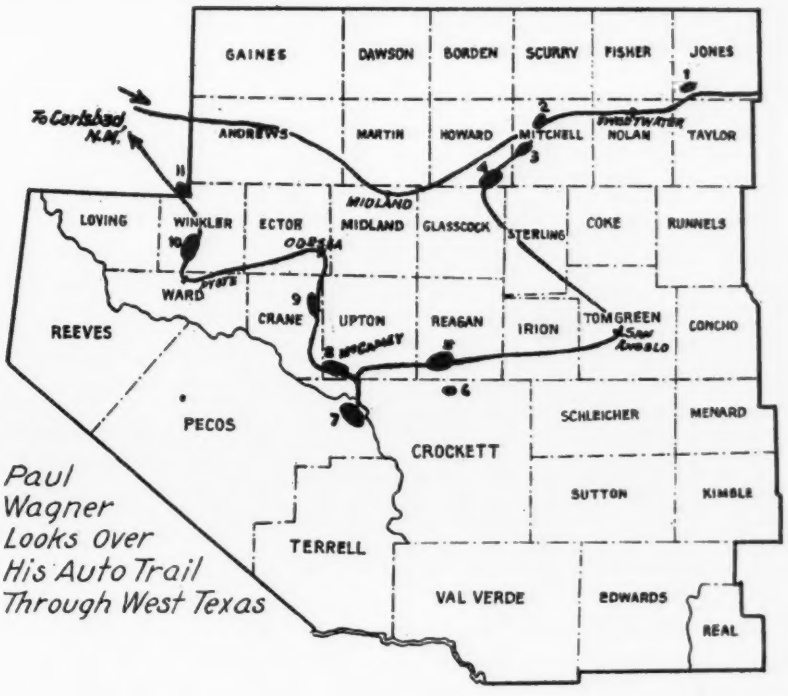
Development and production in the Howard county area have been discussed at length in these columns at various times.

AFTER spending the day in visualizing operations in Mitchell and Howard county, my traveling companion and I nosed our Moto-Meter in the general direction of San Angelo, via Sterling City, and "poured it on."

Our stop at San Angelo has no place in a field review except to record again that this prosperous little city is the gateway into the area of greatest development in the southern part of the salt basin region, in Reagan, Crockett, Upton and Pecos counties.

Business at San Angelo appears brisk enough, considering the general condition of the petroleum in-

1000 Miles from the Pavement's End



THE accompanying sketch shows the route of travel taken by Paul Wagner, production analyst of NATIONAL PETROLEUM NEWS staff, on his latest trip through the Permian salt basin oil fields of west Texas.

Including side trips to points of importance in the general area, in addition to the fields studied at first hand, Mr. Wagner covered more than 1,000 miles and spent about 10 days in the salt basin region itself. The trip as a whole covered more than 2,000 miles as far as the study of west Texas developments were concerned, beginning at Fort Worth and ending there two weeks later.

All the fields shown on the accompanying map except No. 1, the Noodle Creek area of Jones county, bear relation to salt basin development in that vast area of west Texas destined to play an important part in the future of southwestern oil reserves. They may be identified by figures on the map as follows: (2)—Westbrook field, Mitchell county; (3)—Iatan, Mitchell county; (4)—Chalk-Roberts area, Howard and Glasscock counties; (5)—Big Lake Reagan county; (6)—World area, Crockett county; (7)—Yates field, Pecos county; (8)—McCamey district, Upton and Crane counties; (9)—McElroy ranch and University (Church & Fields) area, Crane county; (10)—Hendricks field, Winkler county; (11)—Scarbauer-Rhodes development, Winkler county, and Lea county, New Mexico.

Mr. Wagner concludes, as a result of his trip, that almost incredible quantities of crude are ultimately to be produced there. This thought is not new, he points out in referring to his past articles, but his measure of the immensities of this reserve in the salt basin region is increased as a result of his latest study.

The orderly manner of its development in relation to the region's present and future development is a feature in contrast with the hectic days of Ranger-Burkburnett, Smackover and the Los Angeles basin operations, all of which he studied in detail for NATIONAL PETROLEUM NEWS.

dustry, but it is not the swarming bee-hive of activity that followed the discovery of oil at Big Lake and McCamey; also, the tone of the town appears different.

An atmosphere of progressive stability now pervades San Angelo, displacing the ragtag and bobtail so characteristic of boom conditions. The old atmosphere, once so evident on its streets, is now scarcely noticed.

WESTWARD the course of empire takes its way; and so we proceed. Thus, by way of Tom Green, Irion and Reagan counties, we reached the Big Lake field, which marked the first oil discovery in that great salt basin of Permian time which now commands the attention of the entire petroleum industry.

As is the case in all salt basin petroleum areas of west Texas our noses informed us of our near approach to production. Any proximity to west Texas oil causes one to think immediately of last year's egg crop; too close proximity and one may be forced to investigate the undertaking facilities of this sparsely settled country—for hydrogen sulfide gas is a dangerous playmate for grown-ups as well as children. Its effect is quite as disastrous, if not so sudden, to both physical equipment and profits.

More of that later, and elsewhere. It is the function of this survey to recount facts and observations about results from development, activity under way and the general background of the salt basin region.

BIG LAKE, it will be recalled, was discovered by the Texon-Group 1 interests in the spring of 1923. These interests and the Big Lake Oil Co., which acquired 16 sections of University land from them, control the entire field. Its 200 wells average 114.72 barrels daily; the field had produced roundly 30,000,000 barrels of crude oil to Jan. 1, 1928; and Big Lake's ultimate is estimated at approximately 100,000,000 barrels.

President Levi Smith of the Big

Lake Oil Co., a veteran of Tampico and Roumania development, was away from headquarters when we reached the field. After a visit with E. C. Stearns, general manager, and M. R. Williams, secretary, we found it necessary to proceed again westward, reluctantly passing up a telephoned invitation of President Smith to spend the night at his headquarters cottage.

It has been truly said of this part of Texas that when it rains it never knows when to quit; but when it does quit it never knows when to begin again. It was in such a period of extended drouth that we visited the region.

From a point a few miles west of the Reagan county line the terrain sloped gradually away from high scarps into the valley of the Pecos river, southwestward. As we "topped the rise" and gazed down across this vast basin-like valley we gasped in terror, for there before our astonished eyes lay a sinister sea of dust.

Into its depth we plunged to find the roads in excellent condition, except for our obscured vision. But, oh, the dust. Every car and telephone pole, every mesquite bush, was encrusted with a saffron coat. In a half-light we proceeded south from Rankin to the Yates field in Pecos county.

Due to the peculiarities of Yates field operations only one "boom" town of consequence has been able to rear its head—Iraan by name. Its growth has not been phenomenal, but it has its points of interest.

The most important places in any oil town are its restaurants, for if the oil man does nothing else he eats three times a day —AND HOW. Hence, it happens that Iraan's leading restaurant, advertised as being run by one John Cut 'Em Big, is a most important establishment in the life of the community.

If the name of the place is picturesque, one needs the vocabulary of a Shakespeare, or a Brann, to fittingly describe the Carte du Jour, a facsimile of which is reproduced herewith. But be not deceived, the food itself is excellent; not only in Iraan, but in McCamey, Crane City, Odessa, Pyote, Wink, and the other mushroom metropolis reached later along our route. The food is good

Iraan is in itself an unusual cognomen for even a town. Its derivation smacks of the romantic, being a combination of the Christian names of Ira G. Yates and his wife, Anna, Iraan now has a postoffice and, hence, is on the map of the world.

How changed this topsy-turvy world must seem to those few scattered ranchers who starved so many weary years on the meager substance of an arid land; who drove once a week, or once a month, the 25 to 75 miles to Rankin or Fort Stockton, for their occasional mail.

Yates ranch house and red barn overlooking the slimy Pecos

South of Iraan two or three miles, on a rocky bench overlooking the slimy Pecos, sits the Yates ranch house and its attendant red barn. Both have been pressed into service as emergency quarters for the housing requirements of those who came into the Yates field for its development.

The company camps in and around Yates field are models of cleanliness and precision, trim, newly painted box houses, models of comfort and convenience, so far as living conditions are concerned; standing like well trained soldiers at attention.

They obviate the necessity for the upgrowth of mushroom field towns and illustrate the sincerity and literalness with which oil companies have realized—

You Can Talk About Price,
You Can Talk About Markets,
And Balance So Nice,
You Can Argue No End of Abstractions,
And Then,
You'll Find the Damn Business Is
Run By Its Men.

Anon, after a survey of the field, which has been recounted elsewhere, and we are back beneath the dust pall, headed for Al Badger's "tin story" hotel at McCamey, for an almost all-night sleep.

(To Be Continued)

Food is Better Than Spelling

DINNER TO-DAY—Jan-11-1928

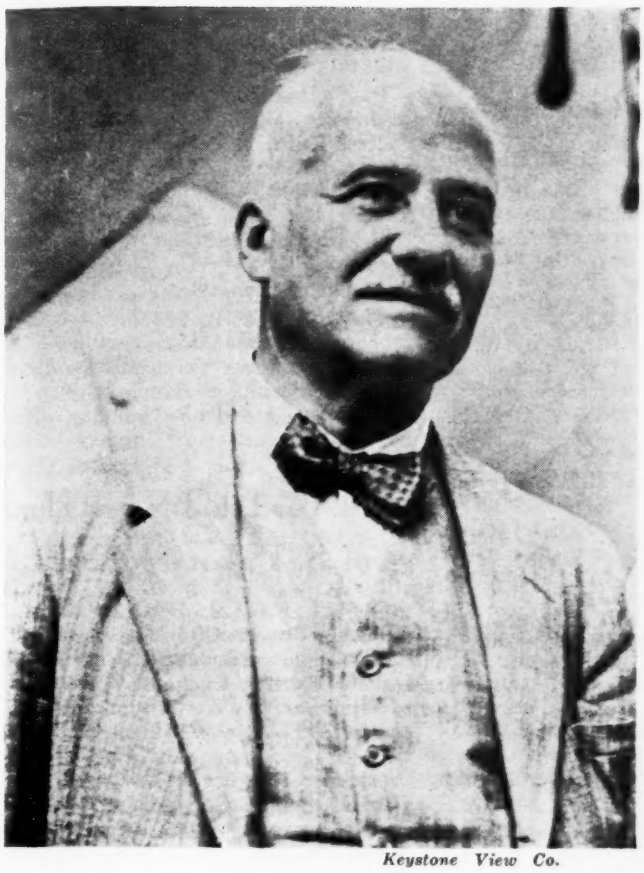
Soups

Spagette Indian Style 15c Bean Soup 15c
Hogs Head with Homney 45c
Baked Veal Loaf with Cream Greavy 45c
Boiled Ox Tongue with Spinech 45c
Corn Flitters with Maple Syrup 40c
Irish Stew Jungle Style 40c
Homade Chili with Lunch 45c
Plate Lunch with Soup 45c
Dinner with Drinks 50c
Pot Roast with Flitters 45c
Prime Ribs of Beef Au just 50c
Roast Pork With Dressing 50c

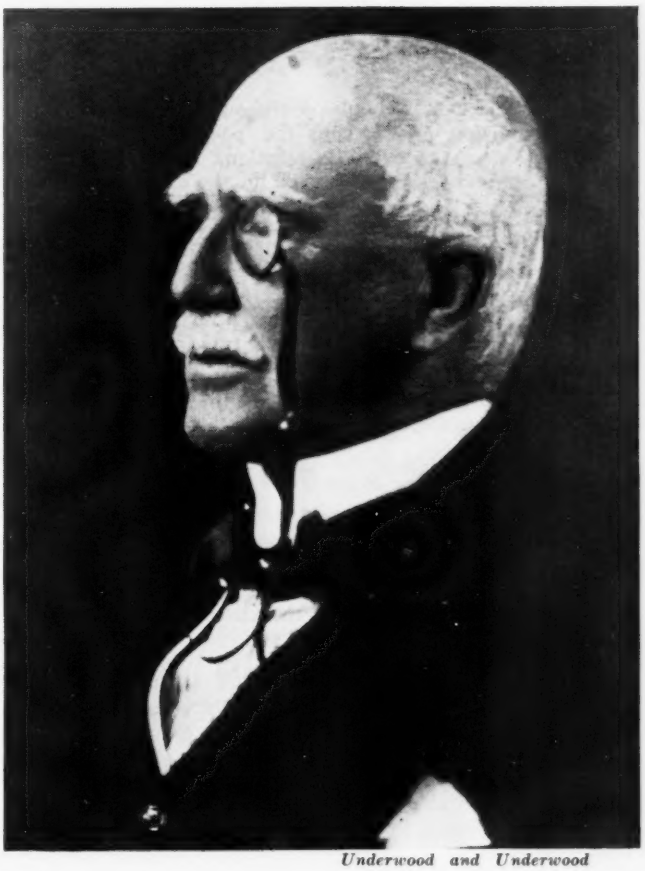
SIDE DISHES

Mashed Potatoes 15c Red Beans 15c
Stewed Corn 15c Mexian Cold Slaw 15c

English Oil Leaders



Keystone View Co.



Underwood and Underwood

Leaders in Fight Against Standard of New York in India

Sir Henri W. A. Deterding, general managing director of the Royal Dutch-Shell group (left) who has taken aggressive action against the Standard Oil Co. of New York in India because the Standard has marketed Russian kerosene in competition with the Royal Dutch Shell and Burmah Oil Co., which is controlled by the Anglo-Persian Oil Co. of which Lord Greenway (right) is president. Lord Greenway's company has asked the British government to impose a prohibitive tariff against the importation of Russian oil products into India on the grounds that the goods are "stolen," a charge that Sir Henri has often repeated in the last few months

U. S. Produced 72.23% of World Oil Output in 1927

WASHINGTON, Feb. 3

MORE than 70 per cent of the petroleum produced in the last year came from the United States comments a bulletin of the National Petroleum Association and the Western Petroleum Refiners Association dated Jan. 30.

United States production was 770,874,000 barrels, or 70.18 per cent, in 1926 and 905,800,000 barrels or 72.23 per cent in 1927. The figures are estimates of the Bureau of Mines. Of the 1927 production approximately 896,000,000 barrels were moved from producing properties, and the remaining 9,000,000 barrels was used on leases or stored by producers.

Mexican production dropped 26,000,000 barrels last year, placing that country in fourth place instead of second among producing countries. Russia advanced from third to second place according to the estimates, this was for the first time since 1917. Colombia moved from eleventh to eighth place last year when production increased from 6,444,000 to 14,600,000 barrels which was largest percentage increase of any country. Following are the estimates for the two years from the Bureau of Mines.

	1927		1916	
	Barrels	Per cent	Barrels	Per cent
United States	905,800,000	72.23	770,874,000	70.18
Russia	72,400,000	5.77	64,311,000	5.86
Venezuela	64,400,000	5.14	37,226,000	3.39
Mexico	64,200,000	5.12	90,421,000	8.23
Persia	36,800,000	2.93	25,842,000	3.26
Rumania	26,100,000	2.08	23,314,000	2.12
Netherlands East Indies	21,400,000	1.71	21,242,000	1.94
Colombia	14,600,000	1.16	6,444,000	.59
Peru	9,800,000	.78	10,762,000	.98
Argentina	8,700,000	.69	7,952,000	.72
British India	8,200,000	.65	8,728,000	.80
Poland	5,800,000	.46	5,844,000	.53
Trinidad	5,200,000	.42	5,278,000	.48
Sarawak	5,000,000	.40	4,942,000	.45
Japan and Formosa	1,700,000	.14	1,900,000	.17
Egypt	1,270,000	.10	1,888,000	.11
Germany	700,000		653,000	
France	525,000		478,000	
Canada	500,000		364,000	
Ecuador	450,000	.22	214,000	.19
Sakalin	200,000		181,000	
Czechoslovakia	140,000		150,000	
Italy	60,000		48,000	
Others	200,000		33,000	
Total	1,254,145,000	100.00	1,098,389,000	100.00

Ohio Marketers Hear Talk On Merchandising

COLUMBUS, O., Feb. 6.—Merchandising, extension of markets for petroleum products, and public relations will be discussed before the annual meeting of the Ohio Petroleum Marketers' Association in the Neil House, Columbus, Feb. 22, 23 and 24. Nine speakers have pledged to address the convention which is the first three-day assembly the Ohio marketers will ever have had. Thirty-four equipment manufacturers and refiners have bought 41 exhibit spaces. The speakers and their subjects are:

Harry L. (Gattling Gun) Fogleman, vice-president, Sheldon School, "Profitable Merchandising".

Alvin E. Dodd, manager domestic distribution department, Chamber of Commerce of the United States, Washington, "Facing The Facts in the Distribution Situation".

B. H. Anglin, vice-president and sales manager, Indian Refining Co., Lawrenceville, Ill., "Volume and Expense vs. Profits".

E. Allen Frost, general counsel, Outdoor Advertising Association of America, Chicago, "Marketing Ohio Products".

Hubert B. Fuller, Chamberlin, Marty & Fuller, attorneys, Cleveland, "Our Relations with the Public".

J. Adam Bede, former congressman from Minnesota and known as the humorist of the house, "In the Wake of the World".

Harry D. Frueauff, Henry L. Doherty & Co., New York, "Fields for Increased Consumption of Petroleum Products".

William R. Boyd, Jr., assistant general secretary and counsel, American Petroleum Institute, New York, "Uncharted Potential Petroleum Markets".

Charles V. Truax, secretary of agriculture and state sealer of Ohio, "The Pump Question".

The Bureau of Mines, eight-reel film, "The Story of Petroleum", which was recently completed will be shown the evening of the first day. Group and committee meetings will be held each morning and directors and officers will be elected the afternoon of the second day.

W. A. Milne, executive secretary of the association, predicts 750 oil and equipment men will attend. A silver loving cup will be given the Ohio petroleum club that has the largest oil marketer representation that travels the most miles to the convention. Rivalry among the 14 clubs is expected to result in 400 marketers attending. Special entertainment features will be provided for the women that attend.

Exhibitors who have already bought space are:

Milestone Meter Systems, Inc., Cleveland, O.
Huffman Mfg. Co., Dayton, O.
Erie Meter Systems, Inc., Erie, Pa.
Novelty Advertising Co., Coshocton, O.
Bennett Pumps Corp., Muskegon, Mich.
Correct Measure Co., Rochester, Pa.
Sterling Oil Co., St. Marys, W. Va.
National Recording Pump Co., Dayton, O.
Auto Compressor Co., Wilmington, O.
Tokheim Oil Tank & Pump Co., Ft. Wayne, Ind.
Canfield Oil Co., Cleveland, O.
S. F. Bowser & Co., Ft. Wayne, Ind.
Shotwell Pump & Tank Co., Indianapolis, Ind.
Anchor Pump & Mfg. Co., Cincinnati, O.
Milwaukee Tank Works, Milwaukee, Wis.
Davis Welding & Mfg. Co., Cincinnati, O.
Vacuum Oil Co., Cleveland, O.
Pennzoil Co., Oil City, Pa.
Sharpsville Boiler Works Co., Sharpsville, Pa.
H. D. Lee Co., South Bend, Ind.
Gilbert & Barker Mfg. Co., Springfield, Mass.
Fry Equipment Corp., Rochester, Pa.
Waverly Oil Works Co., Pittsburgh, Pa.
Fogarty Mfg. Co., Dayton, Ohio.
A. G. Albertoni Swivel & Valve Works, Cleveland, O.
The Heil Co., Milwaukee, Wis.
Merit Oil Equipment Co., Cleveland, O.
Dayton Pump & Mfg. Co., Dayton, Ohio.
Scioto Petroleum Co., Columbus, O.
Pittsburgh Gasoline Pump Co., Pittsburgh, Pa.
Amco Sales Corp., Chicago, Ill.
American Oil Pump & Tank Co., Cincinnati, O.
MacBeth-Evans Glass Co., Charleroi, Pa.
Eco Sales Co., Cleveland, O.

Four Oil Men on Program At Iowa Meeting

CHICAGO, Feb. 2.—Program for the seventh annual convention of the Iowa Independent Oil Men's Association, has just been made public. The meeting will be Feb. 8 and 9 in Des Moines at the Savery hotel. Of nine speakers four are oil men; three are Iowa jobbers and one is a refiner. Besides, two oil association men will appear at the meeting as well as a lawyer, an accountant and an educator.

Robert Bruce White of Valvolene Oil Co., Chicago heads the list. He will talk on "A Lubrication Catechism".

Leonard Simmer, Wapello Oil Co., Ottumwa, Ia., will discuss marketing ethics. Credits will be discussed by T. L. Dufer, credit manager of Manhattan Oil Co., Des Moines. E. Rizk of Sioux City who is an oil burner manufacturer as well as head of the Interstate Oil Co., will talk about oil burners and their fuel.

N. McLaughlin, senior member of a Minneapolis accounting firm will discuss the relationship of his business to the oil marketer. Attorney General John Fletcher of Iowa will explain the state's anti-discrimination law, and Prof. J. P. Ryan of Grinnell college will talk about trade associations.

Paul Hadlick, secretary of the Minnesota oil men, will tell of his success with a coupon interchange among the oil jobbers of his state, and Charles M. Sutherland, secretary of the Nebraska group, will tell of the legal complications which developed recently over the Nebraska gasoline inspection law.

The annual banquet of the Iowa jobbers will be on the evening of the first day. The election of officers will be held and the reports of retiring officers heard on Thursday afternoon.

C. M. Berdahl Elected Head of S. Dakota Jobbers

SIOUX FALLS, Feb. 2.—Carl M. Berdahl, Beaver Oil Co., Sioux Falls, was elected president of the South Dakota Independent Oil Jobbers Association at the convention here Jan. 18 and 19. Wm. Graham, Hi-Grade Oil Co., Croton, was elected vice-president; and F. H. Buehler, of the Dacotah Oil Co., Madison, was re-elected secretary and treasurer, this is the ninth consecutive time that Mr. Buehler has been elected.

The directors elected are H. F. Brownell, Brownell Corp., Sioux Falls; E. P. Reagen, Aberdeen Oil Co., Aberdeen; E. J. Wight, Clay County Oil Co., Vermilion; A. J. Baldwin, Baldwin Oil Co., Lake Preston; John Ries, Codington County Oil Co., Watertown; F. M. Hahn, Independent Oil Co., Delmont; and the three officers.

A constructive program was presented to the jobbers. A summer meeting will be held in July with some district meetings held in the meantime. Price conditions have been normal through the state for the past two years, except for one or two points, writes Secretary Buehler.

New England Oil Men Meet In Boston

BOSTON, Feb. 4.—The fourth annual convention of the Independent Oil Men's Association of New England will be held March 14 and 15 at the American House, Boston. Two lunches and a banquet are on the program; there will be an equipment exhibition, speakers and entertainment.

KANSAS CITY, Feb. 6.—Jack Nourse, the oil man of Kansas City, and Mrs. Nourse are vising in Mexico. Jack says it is both business and pleasure, that Americans are being better received all the time and business is picking up.

Lax Collection Policy Shuts Sales Door, Michigan Jobbers Are Told

Staff Special
DETROIT, Feb. 4

FACTORS that are guides in determining credit and collection policies taxes, operating costs, how to get a share of transient business, the problem of loaned equipment, and the relation of business to its public — these were the various topics presented in addresses and discussed from the floor at the annual convention of the Michigan Independent Oil Men's Association here Feb. 2 and 3. Attendance was around 250.

Know the facts, don't guess, in granting credit, so W. E. Burr, of the Vacuum Oil Co. at Chicago, told the oil men in his address on "Credits and Collections." "Find out from your local credit bureau the rating of your customer. Know the facts."

Four steps outlined by Mr. Burr in determining a retail credit policy were rapidity of sales, quality of commodity sold, capital available, and competition, which latter is a negligible factor, he said. There is the question whether goods move rapidly or whether sales are slow and extend over a long period, he said. As for capital, a man must determine how much he can afford to invest in accounts receivable. The guiding factor of a credit policy will be to use that one having the most beneficial effect on sales.

In wholesale credits, Mr. Burr advised the seller to know the actual terms of sales, again, not to guess but to know the facts. "How often do you furnish weapons to undesirable competition by loose credit sales," he asked.

"You are more apt to lose business by failure to collect rather than by trying to collect," said Mr. Burr in discussing the second part of his address. Of the three business "C's", character, capacity and capital, the stumbling block is capacity. In credits and collections there is little question about character, but there is much about the man's capacity to conduct a business.

IN collections Mr. Burr said the first step is the notification, the statement; next is a reminder, a bill or second notification; third, discussion of the account; fourth, is force. In writing notifications, under the second step, the essentials are to make the collection letter brief, firm and courteous.

"When you go to a man to collect ask him for the money, that is what you go for. The man who owes you money has some of your capital tied-up. The average man is honest, but you lose money to the honest man. When a man owes you money you shut the door to future sales. If you don't grant enough credit you get hurt; if you grant too much credit somebody else gets hurt," these were some of the terse statements in Mr. Burr's speech. In closing he urged the men to budget their business.

Frank E. Packard, tax attorney for the Standard Oil Co. of Indiana, was invited by President Ragle to talk to the convention; he was not on the program. Mr. Packard reiterated his statements made at the American Petroleum Institute convention in Chicago Dec. 5-8 (and published in NATIONAL PETROLEUM NEWS, issue of Dec. 14) about oil companies paying excessive taxes on property by not being consistent with other oil companies in their communities in making returns. He invited the bringing of any taxation problem to his office for a co-operative effort in settlement. He told the convention that oil companies should fight each other in their own field, but asked for unity of action on common problems. At luncheon Mr. Packard answered questions from the floor on Michigan taxation problems.

Reducing truck operating costs to a basis of gallons, rather than miles, was urged by Robert Moreland, of Moreland Oil Co., Adrian. Mr. Moreland opened the discussion with W. B. Browne, president of the Great Western Oil Co., Cleveland, Ohio, taking it up from the floor. Mr. Browne illustrated his point by telling how he refers officials wanting to meet a cut in price to the accounting department which figures the costs. One of his points was that it should be known how much additional gallonage must be obtained in making a price reduction and also the costs of selling this additional gallonage.

CLEANLINESS is the keynote to getting a larger share of transient business, so A. D. Dubuisson, of Wolverine Service Stations, South Haven, told the convention. He urged the advertising by signs of clean rest rooms, and then having the facilities in accord with the advertisement. Keeping the station equipment and the attendants clean and upholding the quality of merchandise were other points he brought out, also that the Independents should have uniformly clean rest rooms if they were to compete with large companies that assure the traveler of cleanliness at whatever station he stopped.

There were two luncheons, business meetings on the first afternoon and two more on the second day, with the banquet the first evening. In opening the convention President Ragle said

H. H. Ragle Re-Elected for Sixth Term

DETROIT, Feb. 4.—All officers of the Michigan Independent Oil Men's Association were re-elected at the annual convention here Feb. 2 and 3. This will be sixth consecutive term as president for H. H. Ragle, vice-president of the American Oil Corp. Jackson. Other officers re-elected are A. D. Dubuisson, Wolverine Service Stations, South Haven, first vice-president; Frank Francis, Hancock Oil Co., Hancock, second vice-president; Robert Warner, Cass City Oil & Gas Co., Cass City, third vice-president; P. L. Hassett, McKay & Hassett, Flint, sargeant-at-arms; and Wayne B. Hughes, secretary and treasurer.

Directors elected for a two-year term are Frend Grimes, Grimes & Madigan, Grand Rapids; Peter Jensen, Hansen & Jensen, Escanaba; J. J. Cox, Michigan Oil Co., Ann Arbor.

During the convention a resolution was offered from the floor to change the name of the organization to the Michigan Oil Men's Association, omitting the word "Independent." In the discussion it was claimed that the members are not independent but are dependent on each other. Objection was voiced to the words "oil men" and some members did not want the word "marketer." Other suggestions were the Michigan Petroleum Association and the Michigan Petroleum Marketer's Association. Decision as to a change in name was left to the board of directors.

In appreciation of the service of President Ragle it was decided in the member's meeting to raise a fund from members to purchase a gift which also was to honor Mrs. Ragle, as the president has taken much time for the organization in years past from his home as well as from his business and his personal interests. A. J. Callaghan, associated with Mr. Ragle in the American Oil Corp., and Secretary Hughes were appointed to select the gift.

that, in thinking of a competitor as a common enemy, the industry has lost sight of the evils of adopting marketing policies which lead to free equipment, secret discounts, failure to train employes; lack of proper public good will; and complete disregard of economics. His opening address was a prelude to the other speeches of the first day.

The speakers for the first afternoon were B. H. Anglin, vice-president of the Indian Refining Co., Lawrenceville, Ill., whose address was published in NATIONAL PETROLEUM NEWS, issue of Feb. 1, and Dr. Frank Kingdom, of Lansing.

At the banquet Homer Guck, vice-president of the Union Trust Co. Detroit, told what his company is doing to gain public good will, and Lucius E. Wilson, president of the General Organization Co., Chicago, spoke also on the changed attitude of business to the public and of the efforts made to foster good will. Mr. Wilson also spoke at the morning meeting the second day on the tank-car-to-purchaser method of merchandising, pointing out that it has been tried in other retail lines, and the ultimate test is the use made of it; if this method of merchandising can be used intelligently it will be good, and it will destroy itself if it is used to make price wars possible.

Burton F. Browne, Michican state gasoline tax collector, told the convention that, beginning next week, his office would issue warrants and revoke licenses of oil companies that did not pay the state gasoline tax. He said good co-operation was received from the oil industry, but that action is necessary on some delinquent accounts.

James Schemerhorn, former newspaper editor at Detroit, gave an inspirational address the second afternoon session prior to the election of officers.

Following is the list of exhibitors: Viking Pump Co., Cedar Falls, Iowa; S. F. Bowser & Co., Ft. Wayne, Ind.; Tokheim Oil Tank & Pump Co., Ft. Wayne, Ind.; Gilbert & Barker Manufacturing Co., Springfield, Mass.; Adamson Manufacturing Co., East Palestine, Ohio; King-Seeley Corp., Ann Arbor, Mich.; Childs Sales & Equipment Co., Battle Creek, Mich.; Pennzoil Co., Detroit; Fry Equipment Co., Rochester, Pa.; Leader Iron Works, Decatur, Ill.; Blackmer Pump Co., Grand Rapids, Mich.; Bennett Pump Corp., Muskegon, Mich.; Milwaukee Tank Works, Milwaukee, Wis.; Dayton Pump & Manufacturing Co., Dayton, Ohio; Calumet Refining Co., Chicago; Vacuum Oil Co., Chicago; Erie Meter Systems, Erie, Pa.; Sharpsville Boiler Works Co., Sharpsville, Pa.; Fleckenstein Visible Gasometer Co., Grand Rapids, Mich.; Amco Sales Corp., Chicago; Heil Co., Milwaukee, Wis.; American Oil Pump & Tank Co., Cincinnati; Roxana Petroleum Co., St. Louis.

Humble Denies Demanding Crude Contracts in West Texas

HOUSTON, Feb. 2

STATEMENTS published to the effect that Humble Oil & Refining Co. is demanding contracts for sale of crude to it over long periods of time before it will connect to any producer's property in the west Texas field are officially denied in a statement issued, Feb. 2, by James Anderson, vice president.

In pointing out that "it has been intimated that these contracts are to be governed by the present price of west Texas crude," Mr. Anderson further says:

"There has been no general request or demand on the part of the Humble company for contracts from its producing customers in west Texas.

"The facts are that when the University field in Crane county assumed large proportions the Humble company constructed pipeline facilities from McCamey to University field in order to take care of flush production there. These facilities were built at a time when it was a real burden to the Humble company to handle all the oil which its customers tendered to it.

"Nevertheless, the Humble company did handle flush production in University field, regardless of the expense and burden which came upon it by reason of such runs. It did not demand contracts at that time with the producers from which it purchased oil, and it does not today demand contracts with its producing customers.

"Recently the situation in University field has changed, in that production there is declining and the facilities of the Humble company are no longer overtaxed in this particular field. Moreover, the Winkler county field, on to the northwest of the University field in Crane county, is assuming major proportions; and the oil producers which are ordinarily served by the Humble company are urging the Humble to take care of their production in the Winkler area. To do this the Humble company must extend the line which at present terminates in University field to Winkler county; and the oil which it runs from Winkler county must have room in the facilities from University field to McCamey.

"It becomes apparent in the light of this situation that in order to make provision for its Winkler county customers the Humble company must know what oil it is to continue to run in University field. Under the circumstances the Humble company has expressed itself as willing and anxious to continue to care for its customers in University field, but obviously any oil run from University field must appropriate facilities which in the absence of such oil (from University field) would be devoted to Winkler county.

"The Humble Company has, therefore, asked its customers in University field whether they desire to continue to run their oil to Humble company so that it may know how much oil it can take in the Winkler field, and where such customers desire the continuance of the service of the Humble Company in running their oil they have been asked to contract some fraction of their production to the Humble company. The proposed contract is the usual and customary form for such transactions and has been in general use for a number of years. Such contract provides that the oil is to be paid for at purchaser's posted price on the day the oil is run.

"It is not the policy of the Humble company to ask or accept contracts generally from oil producers and only under extraordinary circumstances such as those which exist today in University field, where the Humble company at large expense has provided facilities for flush production which is now gone and where Humble company is now called upon to extend these facilities to Winkler county, has there been any disposition on the part of the Humble company to ask for contracts, though it has made contracts from time to time when urged by producers.

"The facts are that numerous producers have approached the Humble company not only willing but desirous of making contracts with it, and in some cases when the Humble company has refused to make such contracts these producers have gone to other purchasing companies and made contracts with them.

"The Humble company is today paying for west Texas oil as high a price as any other purchasing agency and pays a higher price than is received by many producers in Winkler county for their runs to other purchasing agencies, such price being in some instances as much as 20 cents per barrel more than is being paid by other competing agencies.

"The Humble company has gone even further and has placed its market for West Texas oil at the disposal of west Texas producers ratably so that every producer in such cases receives his pro rata share of the market which the Humble company is able to afford for this oil. For instance, in the proration of the Yates Pool only six per cent of the Humble's pipe line capacity is allotted to production of Humble Oil & Refining Co. and 94 per cent of it is shared ratably by all the other producers in this field."

O'Neil Turned Back $800,000 Contract Trading Profits to Prairie

WASHINGTON, Feb. 6

THE renewed investigation by the Senate committee on public lands and surveys of the leasing of the Teapot Dome naval reserve to Harry F. Sinclair, turned wholly about the mysterious Continental Trading Co. the last week with these developments:

Arrest of Col. Robert W. Stewart, chairman of the board of the Standard Oil Co. of Indiana, on a charge of contempt of the Senate for refusing to answer questions about investment and disposition of profits of the Continental company.

Release of Col. Stewart from custody of the Senate on a writ of habeas corpus.

Citation of Col. Stewart by the senate to the district attorney of the District of Columbia for indictment for alleged contempt.

Revelation of restoration to the Prairie Oil & Gas Co. of $800,000 Liberty bonds in which Continental profits were invested. This restoration accounts for $1,033,000 of the approximately $3,000,000 profits of the Continental before the remainder of its contract was sold to the Prairie Oil & Gas Co. Former Secretary A. B. Fall through his son-in-law M. T. Everhart received $233,000 of the bonds from Harry F. Sinclair, Everhart told the committee.

The restoration of $800,000 to the Prairie was made in May, 1925, by James E. O'Neil, fugitive former president of the Prairie, to W. S. Fitzpatrick, president head of that company. O'Neil is in Europe and this was the first public revelation that he had come back to America since he fled these shores shortly after the investigation of the Teapot Dome leasing was begun four or five years ago.

Mr. Fitzpatrick said O'Neil wired him to meet him in Montreal in May, 1925, almost four years after the Continental Trading Co. was formed to buy 33,333,333 barrels of Mexia crude from Col. A. E. Humphreys at $1.50 a barrel and which was to have been sold to the Prairie and Sinclair Crude Oil Purchasing Co. for $1.75 a barrel. Col. Stewart's company is half owner of the Sinclair Crude Oil company.

O'Neil came from Paris. Fitzpatrick said he had anticipated what had happened in Montreal.

"Knowing his religion" and that O'Neil believed he was near death, he having left the Prairie on account of his health, Mr. Fitzpatrick explained he had felt certain that "Jim" O'Neil would not face his Maker with a dollar in his pocket that belonged to the Prairie, an assertion which O'Neil later made to Fitzpatrick.

That seemed a charge that the Continental Trading Co. transaction was an "inside deal" the aim of which was to give officials of the companies that bought the Humphreys crude a profit of $8,000,000 at the expense of the companies they were serving.

The bonds were transferred to the Prairie Pipe Line Co. to extinguish a note given the pipe line company by the Prairie Oil & Gas Co., Mr. Fitzpatrick said.

It seemed the afternoon of Feb. 2 that the committee was about to excuse Col. Stewart when Chairman Nye asked:

"Do you know of any one who received these bonds that the Continental Trading Co. is reported to have dealt in?"

"I DID not personally receive any of these bonds or make a dollar out of them," Col. Stewart replied. "I personally did not make a dollar out of the transaction."

Senator Nye: "That was not the question."

Col. Stewart: "I have said that to make way for something else. I am a witness in a case which is now pending between the Government of the United States and some defendants. I have been interrogated in regard to these subjects by the counsel appointed to represent the United States in that case. From their interrogation of me I am of the opinion those are the issues which are going to be tried in that case, and I do not think that the line of interrogation here by this committee is within the jurisdiction of the committee under the laws of the United States, I do not think that the question is entirely pertinent to this inquiry even."

Q. "You understand, of course, that the Senate has specifically directed that we make inquiry into these transactions of bonds?"

A. "I believe I read the resolution under which you gentlemen are operating. Now, furthermore, there are others interested in this matter, and I regret it exceedingly—and I am really not doing it through any lack of respect to the committee—but I have to decline to answer."

Q. "You would not desire to say you did or did not know?"

A. "No."

Q. "Just one more question. Col. Stewart, have you discussed any of these bond transactions with Mr. Sinclair, or has Mr. Sinclair discussed any of these bond transactions with you?"

A. "Well, for those same reasons, I have to decline to answer that. I will say to you that I think that is not material to any of the issues that I know anything about."

Col. Stewart was then excused but he paused to explain that he believed he should reserve his testimony until the Fall-Sinclair trial which is to be held in April, and to which he has been subpenaed.

Col. Stewart was recalled by the committee Friday and again refused to answer the questions of Senator Nye. Senator Walsh, "prosecutor" for the committee, introduced a resolution into the senate asking that Col. Stewart be detained by the Senate. The resolution was adopted unanimously. Col. Stewart was placed under arrest at his hotel and a deputy sergeant-at-arms of the senate remained with him until Saturday when he was released under a writ of habeas corpus.

Previously Col. Stewart, E. G. Seubert, president of the Standard of Indiana, and others had testified that the Humphreys oil could not be obtained by the Standard by direct negotiation and that by the Continental deal it was possible to obtain it. Col. Stewart, laughingly, told the committee he knew that some one was making a commission at the expense of the ultimate buyers, but that he was not thinking of that small amount of money, but the $8,000,000 profit his stockholders were going to make on account of obtaining the Mexia crude at $1.75 when like crude was selling in the Mid-Continent for $2 a barrel.

MR. SEUBERT said that the contract for the Humphreys crude was laid before the directors of the Standard by Col. Stewart with the remark that the company could take it or leave it, but that Col. Stewart thought it was a good bargain. Mr. Seubert said the fellow directors of the chairman thought him a good trader and the contract was taken on a business basis.

The gist of the story told by Col. Stewart as to the reason for the Continental Trading Co. deal, was that the Mexia oil was offered on condition that the buyer would enter into a stock deal of some sort. Col. Stewart said he would not buy on that condition. He said that the Pure Oil Co. did buy on that condition, furnishing $1,000,000 for stock

held by Humphreys for some of the oil it got.

Col. Humphreys, Col. Stewart said, pursued him all the summer with the stock proposition before the oil was bought. He said that, while all the companies were angling for the Mexia crude, he did not pursue Humphreys.

AT VARIOUS times Col. Stewart shouted at the men who were examining him. The most noted explosion came when Senator Cutting, a new senator, suggested that the committee might entertain various assumptions by reason of Col. Stewart's unwillingness to talk about profits or their disposition. One assumption, he suggested, was that Col. Stewart might be a fool but the senator felt sure there would be no such assumption.

"Or it might assume you were committing perjury," said the new senator.

"That's an insult!" shouted Col. Stewart. "The Senate did not authorize you to insult me. If this is to continue I'll leave the room this minute."

Senator Cutting said Col. Stewart had not allowed him to complete his sentence, the rest of which was that he felt sure there would be no such assumption. He said no insult was intended.

At another time when asked by Walsh why he hesitated in answering a question about the disposition of Continental profits, he sharply answered:

"That is none of your business, nor of the committee, and I think yours is an improper question."

Col. Stewart did not admit that he had read in the newspapers that some of the Liberty bond profits of the Continental went from Sinclair to Fall. He said he was sorry that he could not give hearsay testimony, and did not know that to be a fact.

Walsh said the transaction indicated that Stewart had a good reason for signing the contract for the purchase of the Mexia crude.

"I never made a dollar out of this transaction in my life," said Stewart whose attitude was that of a man restraining himself. "You are insinuating that I did, but I did not."

"I am not insinuating that," said Walsh. Stewart reminded the committee that he was merely giving his best remembrance of the occurrences that led up to the organization of the Canadian corporation that took title to the oil and immediately sold it to the Prairie and Sinclair Crude Purchasing Co. with the Standard, Prairie and Sinclair guaranteeing the contract.

At one point in the interrogation of Mr. Seubert, Senator Walsh of Montana wanted to know whether it had not occurred to the witness that the stockholders of the company had a cause of action against officials who allowed the company to be mulcted in that way. When that proposition was laid before Col. Stewart his answer was that he doubted whether an action would lie in view of the fact that the companies bought the Mexia crude for $1.75 when the market for light Mid-Continent crude was $2. Walsh thought otherwise and said he wished the case would be tried.

The Senate has hired George W. Wickersham to represent it in the contempt habeas corpus proceedings begun by Col. Stewart, inasmuch as Senator Walsh is believed to be trying to show that profits of the Continental Trading Co. that did not go to Fall and Everhart were paid on debts of the Republican national committee. The hiring of Mr. Wickersham, attorney general in Taft's cabinet, is taken as a move on the part of the anti-Republican coalition majority in the Senate to show that, if Col. Stewart is sent to jail it will have been done by Republicans and not by Democrats. Col. Stewart has hired Jesse C. Adkins, president of the local bar association and John Barnett, Democratic national committeeman of Colorado, to help his regular lawyers in his defense.

SENATOR WALSH has inquired of Secretary Mellon whether the Continental paid income tax on its profits and if not what legislation could be enacted to get at the bonds for that purpose. In that way he lays a foundation for asserting that the inquiries about the profits of that company are made necessary by the desire to enact legislation providing for their taxation notwithstanding that the statute of limitations has run against collection.

The committee today examined Sheldon Clark, vice-president, Sinclair Refining Co., and H. L. Phillips, president, Sinclair Crude Purchasing Co., but they knew nothing about the profits of the Continental or why the contracts were made. G. S. Taber Jr., former president, has also been summoned as a witness.

Fire Does Not Hamper Shipments

(By Telegraph)

TULSA, Feb. 7.—Gasoline shipments from the Sapulpa refinery of the Continental Oil Co. were not interrupted by the fire on Feb. 2 as stocks of both Ethyl and straight gasoline were not destroyed. A survey revealed that operations may be resumed to a certain extent by Feb. 10. (The fire is reported in this issue of NATIONAL PETROLEUM NEWS page 118.)

HOUSTON, Feb. 7.—Gulf Coastal lube markets show no changes in price range as compared with a week ago. A generally firmer structure prevails, however, and manufacturers report some increase in business.

Obtains First Coastal Oil East of Mississippi

(By Telegraph)

HOUSTON, Tex., Feb. 6.—First oil production east of the Mississippi river in the Gulf Coastal sale dome region was found by Gulf Refining Co. in La., when it completed the discovery well on the Sorrento dome in section 15-10-4, east up the river from Donaldsonville in Ascension Parish, La.

The worth of the well on a full days gauge has not been established, but it flowed at the rate of 5,000 to 7,000 barrels daily when tested for 11 minutes. The fact that the well had been closed in for storage facilities caused a report to gain currency late in the week that it was again producing gas after the short oil flow previously made. This was denied by Gulf officials, however, and the well is expected to produce regularly when opened again at the caprock producing level of 1627 to 1655 feet.

The discovery well was the fourth drilled by the Gulf on a submerged salt dome structure in a swamp area where it has 45,000 acres of leaseholds solidly blocked. The discovery well is near the center of the block insuring controlled development. The well is within two or three miles of the Louisiana Railway & Navigation Co. lines between Shreveport and New Orleans and within about 7 miles from the Mississippi River, which will permit both tank car and barge movements of crude when and as desirable.

Shallow Creek District May be Prorated

(By Telegraph)

HOUSTON, Feb. 5.—The deep lime producing division of the Shallow Chalk district in southeastern Howard County, may be the next scene of prorating of crude runs in West Texas. Magnolia Petroleum Co., Owen & Sloan and the Schermerhorn Oil Co., are considering steps for the retarding of crude production from this district after completing one well each in the lime producing horizon. Magnolia's discovery well on the Dora Roberts ranch was completed several months ago, making 2300 barrels pinched maximum. Last week the Owen & Sloan test on the Dora Roberts, a half mile north of the Magnolia well, made a maximum of 3600 barrels daily at 2958. Now Schermerhorn Oil Co.'s south offset to the discovery is producing some oil while drilling in with prospects of making a big well. Officials of the three companies indicate a complete shut-in may be effected until pipeline facilities of the area are enlarged.

Standard Oil Company (Kentucky) *Uses Wheaton Faucets*

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Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended February 3 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Feb. 3	Total Week Ended Jan. 6
Plants Reporting	12	28	27	12	79	79
Crude Capacity (bbls.)	92,000	157,200	104,500	54,900	408,600	408,600
Cracking Capacity	30,700	52,600	16,200	22,700	122,200	122,200
Da. Av. Crude Runs	56,341 + 9.3	102,917 — 3.0	49,508 — 20.6	47,950 + 18.1	256,716 — 1.5	233,425
Da. Av. Other Oil	6,791 + 15.9	1,691	7,589 + 22.7	—109	15,962 + 35.2	16,698
GASOLINE—Gallons						
Stocks, Jan. 27	11,878,000	48,200,000	17,410,000	3,407,000	80,895,000	80,631,000
Prod. 1-27 to 2-3	8,729,000 + 10.4	14,656,000 — 5.1	5,856,000 — 14.6	4,085,000 + 20.2	33,326,000 — 0.8	29,823,000
Ship. 1-27 to 2-3	7,675,000 + 1.2	13,756,000 — 2.6	5,373,000 — 25.3	4,232,000 + 37.6	31,036,000 — 2.9	30,488,000
Stocks, Feb. 3	12,932,000 + 8.9	49,100,000 + 1.9	17,893,000 + 2.8	3,260,000 — 4.3	83,185,000 + 2.8	79,966,000
Ratio Sales to Prod.	87.9%	93.9%	91.8%	103.6%	93.1%	102.2%
KEROSENE—Gallons						
Stocks, Jan. 27	3,735,000	7,801,000	1,815,000	588,000	13,939,000	14,655,000
Prod. 1-27 to 2-3	1,673,000 + 17.7	2,543,000 — 4.8	1,305,000 + 14.1	900,000 + 9.8	6,421,000 + 6.0	5,279,000
Ship. 1-27 to 2-3	1,533,000 + 22.1	3,112,000 + 27.2	1,482,000 + 10.4	1,049,000 — 10.2	7,176,000 + 15.5	5,864,000
Stocks, Feb. 3	3,875,000 + 3.7	7,232,000 — 7.3	1,638,000 — 9.8	439,000 — 25.3	13,184,000 — 5.4	14,070,000
Ratio Sales to Prod.	91.6%	122.4%	113.6%	116.6%	111.8%	111.1%
STOVE DISTILLATE—Gallons						
Stocks, Jan. 27	1,120,000	3,693,000	821,000	39,000	5,673,000	9,142,000
Prod. 1-27 to 2-3	280,000 + 4.5	777,000 — 2.4	221,000 — 5.2	55,000 + 71.9	1,333,000 + 0.3	1,063,000
Ship. 1-27 to 2-3	328,000 — 15.5	847,000 + 5.7	298,000 — 18.1	24,000 — 55.6	1,497,000 — 6.8	2,410,000
Stocks, Feb. 3	1,072,000 — 4.3	3,623,000 — 1.9	744,000 — 9.4	70,000 + 79.5	5,509,000 — 2.9	7,795,000
Ratio Sales to Prod.	117.1%	109.0%	134.8%	43.6%	112.3%	226.7%
GAS OIL—Gallons						
Stocks, Jan. 27	6,878,000	33,909,000	14,734,000	5,266,000	60,787,000	67,776,000
Prod. 1-27 to 2-3	1,084,000 — 4.5	3,184,000 +133.1	1,787,000 + 79.2	2,138,000 + 16.8	8,193,000 + 53.7	8,157,000
Ship. 1-27 to 2-3	1,272,000 +228.7	4,861,000 + 68.7	1,543,000 +125.6	1,965,000 — 17.9	9,641,000 + 51.9	11,364,000
Stocks, Feb. 3	6,690,000 — 2.7	32,232,000 — 4.9	14,978,000 + 1.7	5,439,000 + 3.3	59,339,000 — 2.4	64,569,000
Ratio Sales to Prod.	117.3%	152.7%	86.3%	91.9%	117.7%	139.3%
FUEL OIL—Gallons						
Stocks, Jan. 27	11,989,000	30,239,000	39,511,000	11,448,000	93,187,000	100,329,000
Prod. 1-27 to 2-3	2,285,000 + 6.3	5,887,000 — 10.2	5,716,000 — 37.5	6,490,000 + 10.8	24,378,000 — 11.2	24,799,000
Ship. 1-27 to 2-3	6,913,000 + 11.0	6,665,000 — 2.0	7,800,000 — 8.3	5,286,000 — 1.5	26,664,000 — 0.9	26,501,000
Stocks, Feb. 3	11,361,000 — 5.2	29,461,000 — 2.6	37,427,000 — 5.3	12,652,000 + 10.5	90,901,000 — 2.5	98,627,000
Ratio Sales to Prod.	110.0%	113.2%	136.5%	81.4%	109.4%	106.9%

Gasoline Produced by Various Methods, Week Ended February 3

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	5,365,000	61.5	10,633,000	72.6	4,457,000	76.1	1,734,000	42.4	22,189,000	66.6
Cracked	2,728,000	31.2	3,140,000	21.4	1,144,000	19.5	1,791,000	43.9	8,803,000	26.4
Natural	636,000	7.3	883,000	6.0	255,000	4.4	560,000	13.7	2,334,000	7.0
Total	8,729,000		14,656,000		5,856,000		4,085,000		33,326,000	

+ or — columns are % change from previous week.

Gasoline Stocks Increased; All Others Reduced

Staff Special—By Telegraph
TULSA, Feb. 7

STOCKS of all principal products at Mid-Continent refineries, except gasoline, were reduced during the last week in January according to reports gathered by NATIONAL PETROLEUM NEWS from 79 plants. For the week ended Feb. 3 gasoline stocks were increased only moderately in view of the season of the year, the total increase being 2,290,000 gallons.

Crude runs at the 79 plants were reduced 3,800 barrels daily average to 256,716 barrels per day, a cut of 1.5 per cent. Kansas refiners increased their runs nearly 5,000 barrels daily average but the Oklahoma group reported a cut of more than 3,000 barrels daily average. Texas showed a drastic cut in runs from 62,320 barrels per day the previous

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Feb. 3. Change in stocks figured from Jan. 6.

GASOLINE

	Gallons
Production	132,522,000
Shipments	129,303,000
Net change in stocks	+ 3,219,000
Ratio sales to production	97.6%

KEROSENE

	Gallons
Production	24,604,000
Shipments	25,490,000
Net change in stocks	— 886,000
Ratio sales to production	103.6%

STOVE DISTILLATE

	Gallons
Production	5,199,000
Shipments	7,485,000
Net change in stocks	— 2,286,000
Ratio sales to production	144.0%

GAS OIL

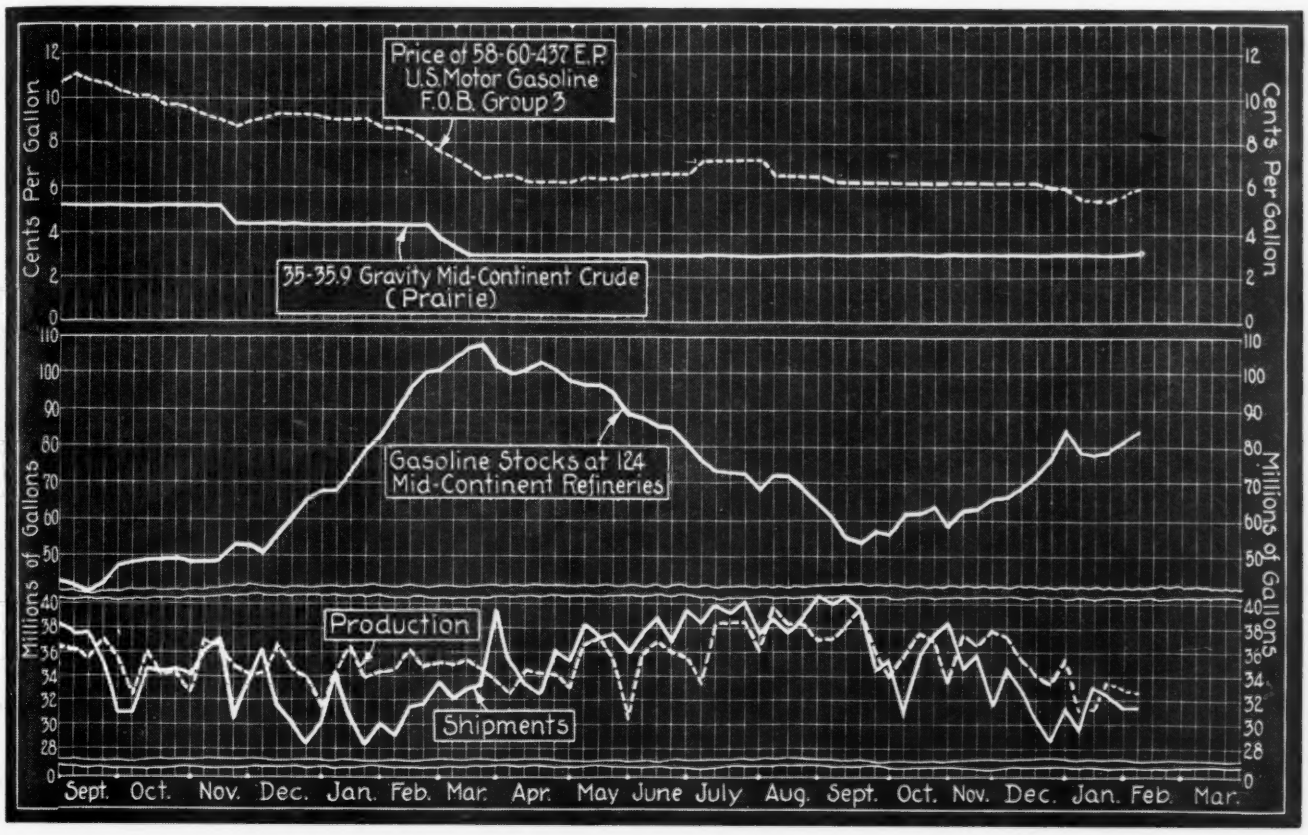
	Gallons
Production	24,934,000
Shipments	30,164,000
Net change in stocks	— 5,230,000
Ratio sales to production	121.0%

FUEL OIL

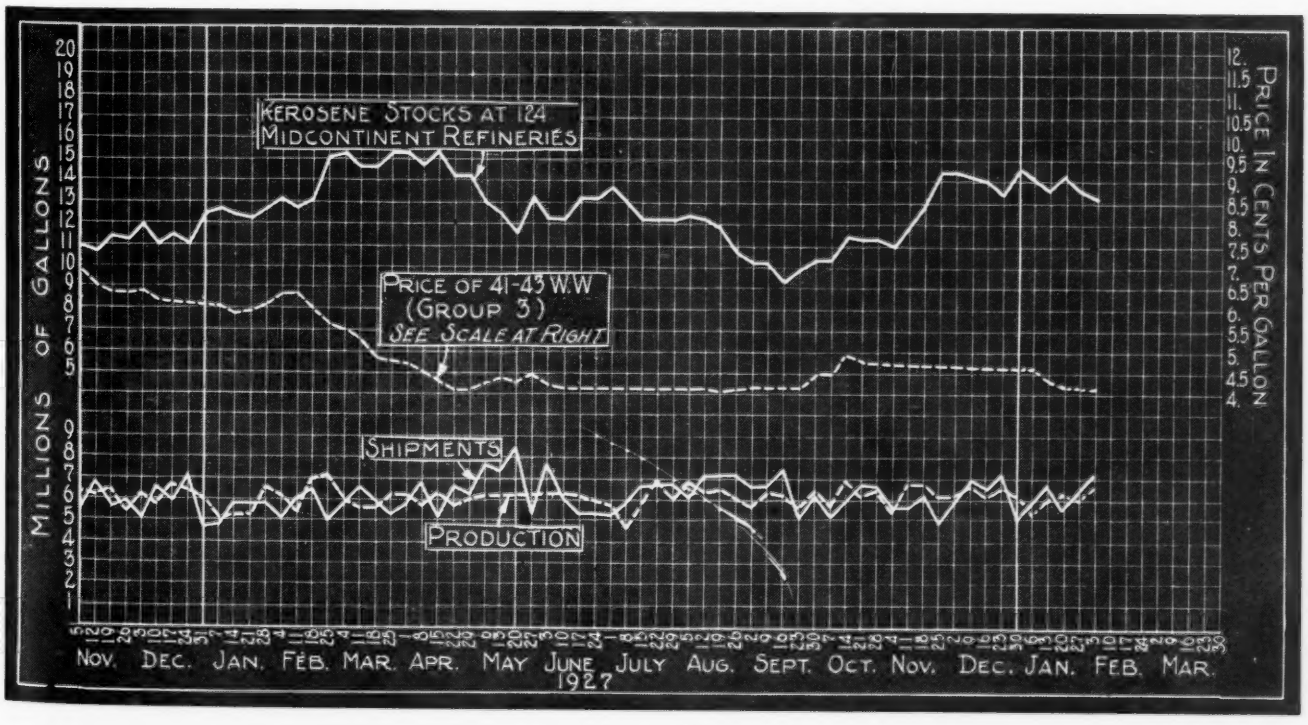
	Gallons
Production	100,964,000
Shipments	108,690,000
Net change in stocks	— 7,726,000
Ratio sales to production	107.7%

Barometer of Mid-Continent Refinery Market—Week Ending February 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

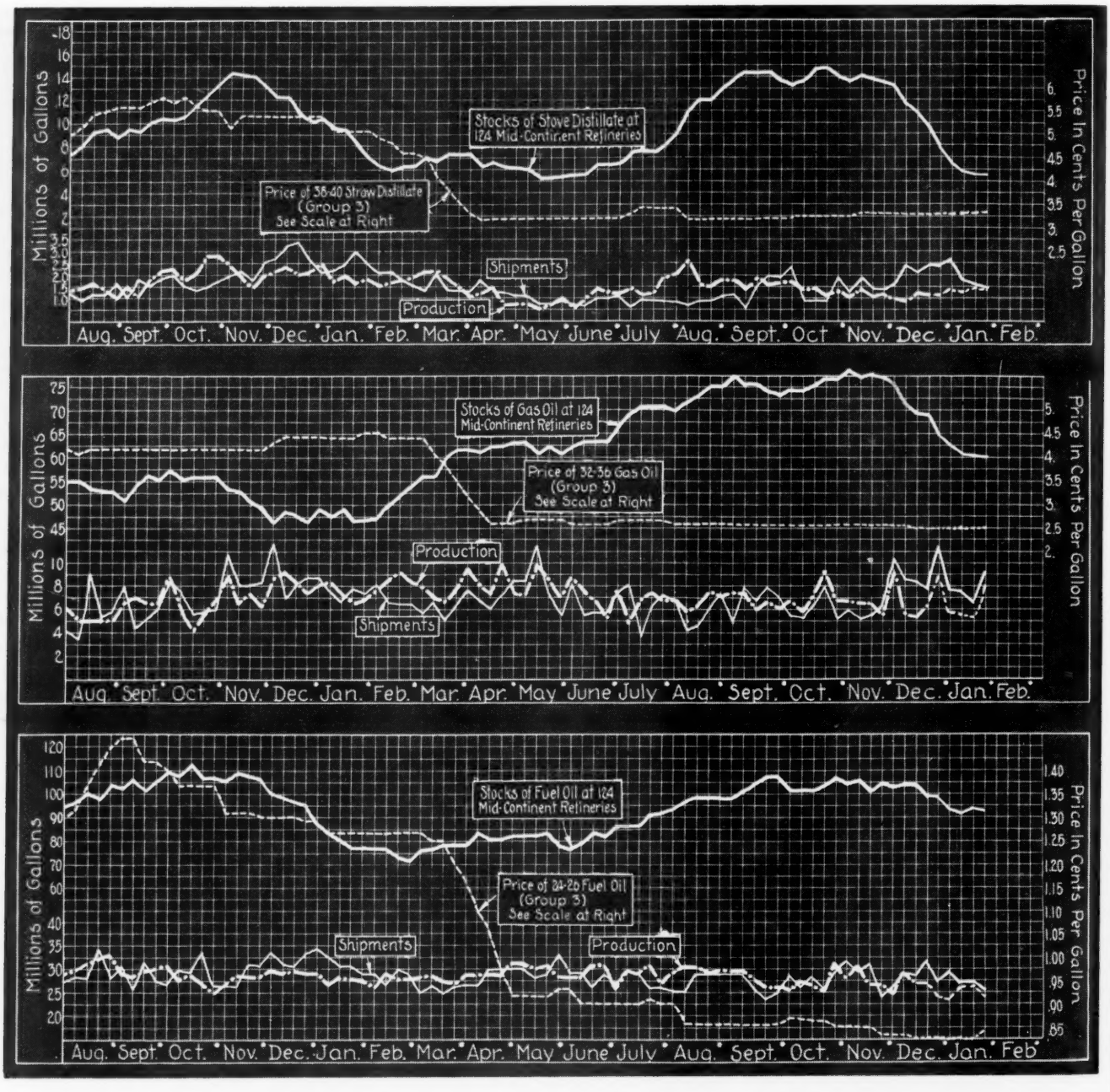

Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at 124 Mid-Continent Refineries
Millions of Gallons
Production
Shipments
Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date shown in table on opposite page


KEROSENE STOCKS AT 124 MIDCONTINENT REFINERIES
PRICE OF 41-43 W.W (GROUP 3) SEE SCALE AT RIGHT
SHIPMENTS
PRODUCTION
MILLIONS OF GALLONS
PRICE IN CENTS PER GALLON
NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR.
1927

Barometer of Mid-Continent Refinery Market—Week Ending February 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News


Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 36-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct Nov. Dec. Jan. Feb.
Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) See Scale at Right
Shipments
Production

week to 49,508 barrels per day during the past week, a cut of 13,812 barrels daily average or 20.6 per cent. At the same time the north Louisiana and Arkansas group advanced runs 7,000 barrels daily average to 47,950 barrels per day.

Due to the conservative rate of manufacture maintained by refiners in the Mid-Continent during January overall stocks of the principal refined products were reduced materially. In the four weeks ended Feb. 3 refinery storage of the five commodities covered by NATIONAL PETROLEUM NEWS reports were reduced 13,000,000 gallons. Stocks of gasoline were increased only 3,219,000 gallons, about a quarter the usual January increase. Kerosene stocks were reduced 886,000 gallons, stove distillate stocks 2,286,000 gallons, gas oil stocks 5,230,000 gallons and fuel oil stocks 7,726,000 gallons.

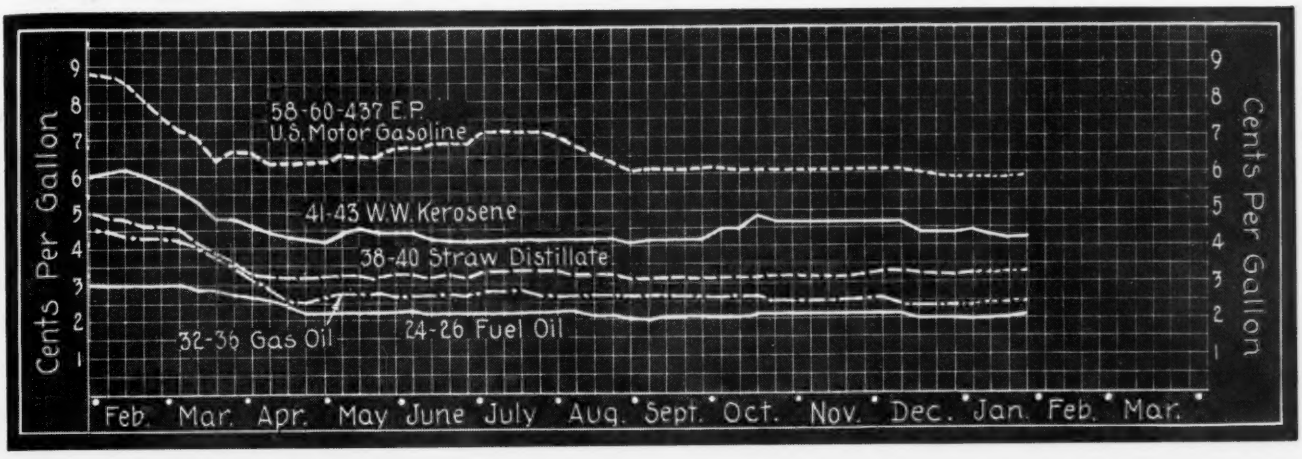
During the week just ended gasoline production at all plants was lower by 300,000 gallons to a total of 33,326,000 gallons. Shipments fell off approximately 900,000 gallons or 2.9 per cent to 31,036,000 gallons. Stocks on Feb. 3 were 83,185,000 gallons at all reporting plants. On Feb. 4, 1927, the same group of plants held 83,669,000 gallons in its tanks.

With the exception of Kansas all groups in the Mid-Continent showed reductions in kerosene stocks for the field as a whole kerosene production was increased nearly 400,000 gallons to 6,421,000 gallons while shipments increased almost a million gallons to 7,176,000 gallons. Stocks were cut 750,000 gallons to 13,184,000 gallons.

Shipments of stove distillate have gradually been declining during the past few weeks but are still well above the level of production. During the past week shipments were down 100,000 gallons or 6.8 per cent to 1,497,000 gallons while production was virtually unchanged at 1,333,000 gallons. Total stocks at the end of the week were 5,509,000 gallons as compared with 6,684,000 gallons a year ago.

Oklahoma and Kansas refineries

Current Prices of Principal Mid-Continent Refined Products


58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Cents Per Gallon
Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this Issue

made substantial drafts on gas oil storage while the southern groups reported minor increases. For the field as a whole shipments increased 3,300,000 gallons to 9,641,000 gallons while production was increased 2,860,000 gallons to 8,193,000 gallons. Stocks at the end of the week were 59,339,000 gallons, a reduction of 1,450,000 gallons from the week ended Jan. 27.

Every group in the field except north Louisiana and Arkansas drew on fuel oil reserves to meet current requirements. Shipments of fuel oil for the field as a whole were almost unchanged at 26,664,000 gallons but production was off 3,000,000 gallons to 24,378,000 gallons. Total stocks were cut to 90,901,000 gallons.

Late Crude Price Changes

SHREVEPORT.—On Feb. 7—Standard Oil Co. of Louisiana met the 10 cent reduction posted on Feb. 6 by the Louisiana Oil Refining Corp. on Smackover crude, making its new price for 24 and above gravity, 90 cents, and for below 24, 75 cents.

On Feb. 7 the Standard also reduced Cotton Valley crude 10 cents, making new price 75 cents. This cut was met immediately by the Louisiana Oil Refining Corp. Last previous change on Smackover was a 5 to 15 cent cut on Nov. 21, 1927, and on Cotton Valley, a 15 cent cut on Dec. 2, 1927.

HOUSTON, Feb. 4.—Prorating of Yates field crude oil runs stands virtually unchanged at the beginning of February. Slight revisions in operating company percentages of runs resulted from the proving of additional acreage southeast of earlier production by the Mid-Kansas & Transcontinental partnership in January, but pipeline allotments were not greatly affected. The prorating committee announced yesterday at Fort Worth that the revision had been possible without the necessity for calling a general meeting.

Weighted Average Prices Oklahoma Market

In line with National Petroleum News' new policy of carrying a weighted average price for the four more important Oklahoma gasolines in its market section, these weighted average prices, together with the number of cars of each grade sold, as of Monday, Feb. 6, are published below. The figures not being available for publication in the market refinery table in the latter part of this issue:

	Total Cars	Weighted Average
58-60 U. S. Motor, 437 e. p.	75	5.9474
60-62, 437 e. p.	26	6.4326
60-62, 400 e. p.	10	6.5250
64-66, 375 e. p.	5	7.0000

Note: Above prices are in cents per gallon, f.o.b. Oklahoma refinery, in tank car lot.

Correction

In the estimate of 1928 gasoline demand on page 17 of the Feb. 1 NATIONAL PETROLEUM NEWS, the percentage of recovery of gasoline from crude in the first 11 months of 1927 should have been 35.9. The 40.7 per cent given was the percentage of all gasoline produced to the volume of crude run to stills and lead to incorrect calculation. The volume of refinable crude oil needed to meet the 1928 export and domestic demand should be about 905,290,000 barrels if gasoline recovery is maintained at the rate of recovery in the first 11 months of 1927, and the volume of natural gasoline used is 30,000,000 barrels. The erroneous percentage gave the 1928 refinable crude needs as only 812,500,000 barrels. The 905,290,000-barrel figure does not include crude oil used as fuel, or for other purposes than refining.—R.B.S.

Program Announced for Illinois Meeting

CHICAGO, Feb. 6.—G. A. Primm, secretary of the Illinois Petroleum Marketers' Association has announced officially the program of the annual convention in Springfield, Feb. 15 and 16 at the Hotel Abraham Lincoln. The main speaker for the first session is Governor Len Small of Illinois who will give the oil men an address of welcome.

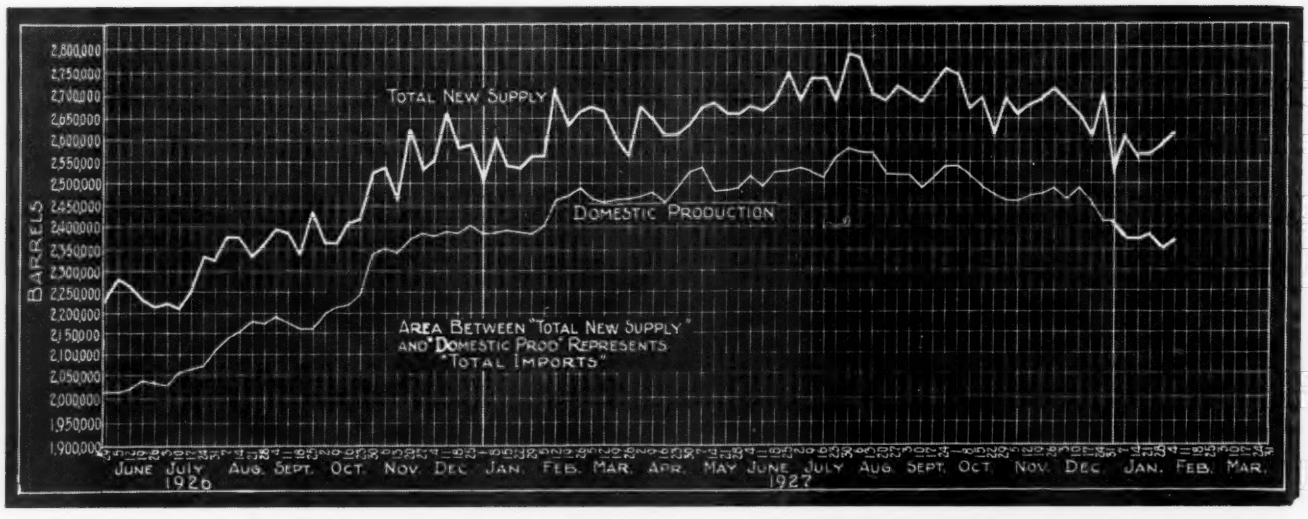
Business sessions begin with the afternoon of the first day. B. L. "Barney" Majewski, vice president of Shaffer Oil & Refining Co. will act as master of ceremonies. Bert H. Taggart, Sweeney Gasoline & Oil Co., Peoria, is president of the organization but he is on the program and does not preside at the first public meeting.

After Mr. Taggart, B. H. Anglin, vice-president of Indian Refining Co., will talk on "Volume and Expense vs. Profits." Charles S. Rosenthal, Apex Motor Fuel Co., Chicago, concludes the first day's program with a talk on "A Better State Association." In the course of the same afternoon a tax expert is scheduled to appear before the gathering and tell the oil men how to save money. His name has not been announced.

The annual banquet is on the evening of the first day. Will Taylor, Franklin Life Insurance Co., Springfield is the banquet speaker. The forenoon session of the second day is a closed meeting, for election. Reports of officers and standing committees will be made at this meeting.

On the second afternoon is an open meeting at which a round table discussion will be held and two addresses will be heard. Robert Bruce White of Valvolene Oil Co., Chicago will discuss problems of lubrication and N. McLaughlin of McLaughlin, Noreen & Co., Minneapolis, will talk about accounting and its application to the oil marketing business.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Feb. 4	Jan. 28
Production east of Rockies	**1,752,200**	**1,741,950**
Increase		**10,250**
Total production in U. S.	**2,366,300**	**2,355,250**
Increase		**11,050**
Crude oil imports	**251,571**	**236,571**
Increase		**15,000**
Total crude supply	**2,617,871**	**2,591,821**
Increase		**26,050**

OKLAHOMA

	Feb. 4	Jan. 28
North Braman	3,200	3,000
South Braman	1,900	1,700
Blackwell	3,800	3,800
Hubbard	3,050	3,950
Thomas	1,600	1,800
Tonkawa	15,400	15,050
Garber	9,950	9,950
Burbank	38,400	37,750
Osage, outside Burbank	29,650	29,650
Watchorn	1,150	1,150
Cushing	21,000	21,050
Yale Jennings	9,000	9,000
Davenport	2,400	2,400
Bristow-Slick	24,550	24,550
North Okmulgee	15,850	15,900
Lyons-Deaner	8,000	6,050
Stroud	900	1,050
Cromwell	10,400	10,400
Papoose	5,200	5,100
Wewoka	8,550	8,550
Seminole	58,200	57,050
Bowlegs	96,000	99,600
Searight	19,000	19,350
Little River	36,100	37,150
Earlsboro	115,350	119,350
Duncan district	6,650	6,700
Graham	5,850	5,900
Fox	1,800	1,800
Healdton	14,400	14,400
Hewitt	8,900	8,900
Scholem Alechem	13,900	12,400
Others	77,600	76,800
Total Oklahoma	667,700	670,250
Decrease		2,550

KANSAS

Greenwood County	30,250	30,100
Florence-Covert	1,450	1,450
Peabody-Elbing	3,800	3,800
Eldorado-Towanda	14,250	14,250
Augusta-Fox-Bush	4,200	4,200
Rainbow Bend	1,900	1,900
Russell	2,350	2,250
Churchill	12,600	12,050
Oxford	15,200	15,800
Others	24,800	25,000
Total, Kansas	110,800	110,800

NORTH LOUISIANA

Homer	4,400	4,400
Haynesville	6,300	6,300
Caddo, light	11,550	11,750
Caddo, heavy	4,000	3,950
De Soto, Red River	4,250	4,200
Elm Grove	600	600
Bellevue	1,000	1,000
Cotton Valley	4,450	4,400
Urania	8,200	8,300
Pleasant Hill	650	800
Total, North Louisiana	45,400	45,700
Decrease		300

ARKANSAS

El Dorado	5,150	5,150
Champagnolle	1,200	700
Smackover, light	8,650	8,800
Smackover, heavy	69,150	69,100
Stephens	1,100	1,100
Nevada	2,400	2,700
Lisbon	2,400	2,450
Others	100	100
Total, Arkansas	90,150	90,100
Increase		50

TEXAS (Outside Gulf Coast)

Panhandle District

Hutchinson County	49,200	49,400
Carson County	7,500	7,700
Gray County	23,100	18,300
Wheeler County	1,100	1,450
Others	50	50
Total, Panhandle District	80,950	76,900
Increase		4,050

North Texas

Burkburnett	12,000	12,100
Electra	11,000	11,200
Iowa Park and K-M-A	1,800	1,800
Wilbarger	10,250	10,500
Archer County	21,600	21,850
Montague-Cooke	14,050	14,350
Others	650	650
Total, N. Tex.	71,350	72,450
Decrease		1,100

West Central Texas

Stephens County	7,250	7,500
Eastland-Desdemona	8,050	8,250
Brown County	14,600	14,950
Coleman County	1,000	1,000
Callahan County	3,950	3,900
Shackleford County	5,600	5,700
Young County	9,500	9,550
Throckmorton County	1,050	1,150
Palo Pinto County	500	500
Jack County	1,550	1,700
Others	500	500
Total, W. Central Texas	53,550	54,700
Decrease		1,150

West Texas

Jones County	1,200	1,250
Mitchell and Scurry Counties	3,400	3,300
Howard County	6,850	7,000
Reagan County	21,750	22,450
Crane and Upton Counties	103,000	94,500
Crocket County	3,150	2,900
Pecos County	45,600	51,000
Winkler	90,900	85,100
Others	2,500	2,000
Total, W. Tex.	278,350	269,500
Increase		8,850

East Central Texas

	Feb. 4	Jan. 28
Mexia	7,750	7,800
Currie	600	600
Richland	600	600
Wortham	1,950	2,000
Corsicana-Powell	12,400	12,500
Nigger Creek	1,800	1,800
Total, E. Central Texas	25,100	25,300
Decrease		200

Southwest Texas

Luling	12,850	13,000
Lytton Springs	1,600	1,600
Somerset	800	800
Laredo District	6,500	6,750
Piedras Pintas		
Dale	550	600
Others	400	400
Total, Southwest Texas	22,700	23,150
Decrease		450
Total, Texas—(Outside Gulf Coast)	532,000	522,000
Increase		10,000

GULF COAST

Coastal Texas

West Columbia	8,950	8,600
Damon Mound	850	850
Big Creek	2,100	1,900
Boling	2,000	2,100
Blue Ridge	4,500	3,850
Pierce Junction	8,550	10,000
Humble	1,650	1,700
Goose Creek	7,300	7,400
South Liberty	2,200	2,100
Hull	12,000	12,050
Saratoga	1,050	1,050
Batson	1,300	1,300
Barbers Hill	650	900
Sour Lake	3,600	3,700
Spindletop	41,000	41,200
Orange County	4,700	4,950
Others	2,200	2,000
Tot., Coastal Tex.	104,600	105,650
Decrease		1,050

Coastal Louisiana

Vinton	4,350	4,650
Lockport	5,150	4,850
Evangeline	1,050	1,100
Edgerly	1,700	1,700
Others	2,250	3,400
Total, Coastal Louisiana	14,500	15,700
Decrease		1,200
Tot. Gulf Coast	119,100	121,350
Decrease		2,250

ROCKY MOUNTAIN

Wyoming

Salt Creek	43,950	37,800
Grass Creek	2,500	2,450
Elk Basin	1,150	1,000
Big Muddy	2,750	2,750
Lost Soldier	2,900	2,750
Rock River	2,650	2,550
Lance Creek	650	600
Teapot Dome		
Others	3,350	3,250
Total, Wyoming	59,900	53,150
Increase		6,750

Montana

Cat Creek	1,800	1,750
Sunburst	8,500	8,500
Others	150	150
Total, Montana	10,450	10,400
Increase		50

Colorado

Moffat (Craig)	1,300	1,250
Fort Collins	3,050	3,100
Florence	900	850
Others	1,350	1,750
Total, Colorado	6,600	6,950
Decrease		350

New Mexico

Table Mesa	300	
Artesia	1,250	1,250
Hogback	600	650
Rattlesnake	250	150
Others	200	200
Total, N. Mexico	2,600	2,250
Increase		350
Total, Rocky Mountain	79,550	72,750
Increase		6,800

CALIFORNIA

Santa Fe Springs	38,000	38,500
Long Beach	115,000	114,000
Huntington Beach	60,500	60,500
Torrance	20,000	20,000
Dominguez	13,000	13,000
Rosecrans	8,000	8,000
Inglewood	30,800	31,000
Midway-Sunset	80,500	80,500
Ventura Avenue	53,000	52,500
Seal Beach	41,500	41,500
Others	153,800	153,800
Tot. California	614,100	613,300
Increase		800

EASTERN

Including Ill., Ind., Ky., O., W. Va., Pa., and N. Y.)	107,500	109,000
Decrease		1,500

Oklahoma and Kansas Wildcatters Allay Fears of Shortage of Oil

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, Feb. 4

SEVERAL wildcat strikes during the week sent the scouts and the land men scurrying hither and yon. Western Kansas, Okfuskee, Pontotoc and Pottawatomie counties, Okla., were the scenes of commotion.

The Kansas contribution is in Russell county, in the general area of the Fairport and Gorham pools, which have been producing for several years. Streeter & Stearns, independent operators, drilled No. 1 Mermis, SW NW SW of 33-13S 15W, into a pay at 3,297 feet and into total depth of 3,316 feet. At the end of the week it was swabbing 50 barrels per hour. The oil is 37 gravity and contains about 1.5 per cent sulfur.

The well is about one fourth of a mile in advance of production northeast of the Gorham pool, which, however, produces from a shallower horizon in the Pennsylvanian series. The Fairport field, discovered in 1923, is nine miles north of the Mermis well. It, also, produces from a shallower horizon in the Oread limestone member of the Pennsylvanian.

There was something of a rush to the new pool. Most of the land has been under lease for several years, as there was a widespread campaign following the discovery of the Fairport field. Sinclair Pipe Line Co. is connecting to the new well.

In Pottawatomie county, southwest of the several pools of Seminole county, the Indian Territory Illuminating Oil Co., persistent opener of pools, got a well which is unusual in performance. It is the No. 1 Sullivan, SW NW SE of 25-7N-3E, and is immediately southwest of the development in the 7-4, or Pearson pool. The I. T. I. O. test topped the Viola limestone at 4,204 feet and was drilled to 4,213 feet. It is producing from the Viola lime, which has seldom yielded oil in paying quantity in this district. The Wilcox is immediately below the Viola. The Sullivan well made 527 barrels the first one and one-half hours and for the 24 hours ended the morning of Feb. 3 it produced 2,572 barrels. The oil is 40 gravity.

The I. T. I. O. well is an east offset to the Viola lime well of the Magnolia Petroleum Co., completed last October. It was making 325 barrels daily at the time the I. T. I. O. well came in, but stopped flowing. Magnolia will drill deeper. Pay in the Magnolia well was 4,176-84.

Whether the Wilcox will produce in this area is unknown. Wilcox failures have been drilled in the Pearson pool to the northeast, where production comes from the Hunton lime. Several good wells have been drilled in the Pearson pool and a number of large gas wells.

IN SOUTHWEST Okfuskee county the Mid-Continent Petroleum Corp. and Wigton & Long, of Okmulgee, brought in a wildcat which, although not of great importance in itself will lead to further drilling. It is No. 1 Morris, NE SW NW of 29-10N-9E, about one mile northwest of the Papoose pool and three miles southeast of the Cromwell pool. Production was found in the Misener sand at 3,894-99 feet, total depth being 3,901 feet. It was rated initially at 600 barrels, but water soon made its appearance and in the first 14 hours after connecting up the well made 330 barrels of oil and about the same amount of water.

ANOTHER contribution of the Mid-Continent Petroleum Corp. was of greater importance. Northwest of the original development of the so-called deep sand in the Allen pool, Pontotoc county, this company brought in No. 1 Fleet, in the SE corner of 7-5-8. It made 1,245 barrels on Jan. 31, the oil being accompanied by about 30 million feet of gas. The gas pressure has declined and the oil production has increased, the gauge Friday morning being 1,505 barrels in 24 hours. Offsetting the Fleet well to the south is the Louisiana Oil Refining Co.'s No. 1 Reed, in the northeast of 18-5-8 and since the Mid-Continent well has relieved the pressure, the Reed has increased its production by about 200 barrels

(*Continued on Page* 48)

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended February 4, 1928

	February 4 — Week Ended					Jan. 28				
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	..	8	38	..	46	..	13	38	..	51
Other Osage	4	6	23	3	36	6	5	24	2	37
Bristow-Cushing	4	9	37	8	58	4	11	39	9	63
North Oklahoma	11	8	75	39	133	11	9	75	38	133
South Oklahoma	9	16	111	36	172	9	9	110	36	164
Muskogee	..	6	41	24	71	..	11	41	19	71
Okmulgee-Bristow	10	29	64	18	121	9	27	65	22	123
Seminole Dist.	13	28	156	18	215	14	25	171	15	225
Total Oklahoma	51	110	545	146	852	53	110	563	141	867
KANSAS	34	63	111	61	269	38	61	118	64	281
TEXAS										
Central	..	122	205	141	468	..	125	203	149	477
Panhandle	..	81	81	80	242	..	111	79	82	272
N. Central	..	59	78	31	165	..	51	79	34	164
West	..	121	210	125	456	..	117	206	147	470
Laredo	..	1	25	19	45	..	1	25	19	45
Total Texas	..	381	599	396	1,476	..	405	592	431	1,428
New Mexico	..	5	18	13	36	..	5	20	23	48
GRAND TOTAL	85	559	1,273	616	2,533	91	586	1,313	682	2,624

Completions in North Louisiana and Arkansas, Week Ended February 2, 1928

Louisiana—Haynesville—Claiborne Parish

Company	Well	Location	Depth	Yield
Magnolia Pet. Co.	Lee No. 1	16-22-8	5100	dry, abandoned

Caddo Parish—Waskom

Ark. Nat. Gas Co.	Alexander No. 1	20-16-15	3075	dry, abandoned

Bossier Parish—Elm Grove

J. S. McCullough	Hodges No. 5	25-16-12	1548	30 bbls.

Grant Parish

W. D. Ball et al.	Calhoun No. 1	4- 7-4W	2108	dry, abandoned

Richland Parish

Company	Well	Location	Depth	Yield
Natural Gas & Fuel Corpn.	Thomason A-1	21-16-6E	2477	66M gas

Arkansas—Smackover

J. D. Reynolds	J. W. Reynolds No. 1	21-14-17	2297	dry, abandoned

Union County—Rainbow City (Champagnolle)

E. M. Jones	Crain No. 2	2-17-14	3012	1000 bbls
E. M. Jones	Crain No. 4	2-17-14	3067	100 bbls
Ohio Oil Co.	Crain No. 6	1-17-14	3031	25 bbl.
Ohio Oil Co.	Crain No. 7	1-17-14	3033	35 bbls.

Seminole District Production by Companies and Leases, February 3 and January 27, 1928

BOWLEGS

Company	Farm	S.T.R.	Feb. 3rd Wells	Feb. 3rd Prod.	Jan. 27th Wells	Jan. 27th Prod.
Amerada	Rascoe	15– 8–6	8	3,015	8	3,035
Atlantic	Baker	1– 8–6	4	515	4	414
Atlantic	Fleet	23– 8–6	4	460	4	620
Atlantic	Grayson	21– 8–6	3	1,400	3	1,273
Atlantic	A. Jones	10– 8–6	3	66	3	76
Atlantic	C. Jones	9– 8–6	2	396	2	398
Total Atlantic			16	2,837	16	2,882
Barnsdall	McNac	28– 8–6	1	33	1	33
Barnsdall	Murrow	11– 9–6	4	836	4	1,016
Total Barnsdall			5	869	5	1,049
Carter	Bowlegs	15– 8–6	4	1,340	3	1,320
Carter	Burden	23– 8–6	3	385	3	355
Carter	Harjoche	15– 8–6	6	865	6	920
Carter	Hilly	23– 8–6	3	1,145	3	1,170
Carter	Jones	11– 8–6	4	2,060	4	2,115
Carter	McGeisey	21– 8–6	1	40	0	0
Carter	Melisse	9– 8–6	1	540	1	595
Carter	Walker	15– 8–6	4	685	4	480
Carter	Wise	23– 8–6	12	4,570	12	4,785
Total Carter			34	11,630	34	11,840
Empire	Lacey	15– 8–6	6	653	6	827
Empire	Wise	23– 8–6	2	690	2	722
Total Empire			8	1,343	8	1,549
Gypsy	Bowlegs	22– 8–6	1	0	1	57
Gypsy	Bradley	8– 8–6	1	15	1	20
Gypsy	Cumsey	8– 8–6	4	1,492	4	1,480
Gypsy	Dosar	7– 8–6	1	100	1	100
Gypsy	Grayson	13– 8–6	4	875	4	1,092
Gypsy	Harjoche	10– 8–6	1	880	1	957
Gypsy	Jones	11– 8–6	1	422	1	450
Gypsy	Walker	15– 8–6	8	2,275	8	2,377
Gypsy	Wise	23– 8–6	3	280	3	235
Total Gypsy			24	6,339	24	6,768
Indep. et al	Barnett-A	21– 8–6	2	376	1	382
I. T. I. O.	Barnett-B	24– 8–6	1	320	2	361
I. T. I. O.	Billington	22– 8–6	5	667	5	958
I. T. I. O.	Bowlegs	22– 8–6	11	1,642	11	1,472
I. T. I. O.	Davis	13– 8–6	4	1,572	4	1,506
I. T. I. O.	Fay	18– 8–6	9	2,744	9	2,760
I. T. I. O.	Goforth	15– 8–6	11	1,075	11	1,623
I. T. I. O.	Livingston	15– 8–6	11	4,151	11	4,373
I. T. I. O.	Burden	23– 8–6	1	5	0	0
I. T. I. O.	Lizzie	11– 8–6	2	667	2	737
I. T. I. O.	Walker	15– 8–6	8	1,120	8	1,201
I. T. I. O.	Wilmont	15– 8–6	4	1,017	4	1,012
I. T. I. O.	Work		2	91	2	129
I. T. I. O.	Youngblood	22– 8–6	2	264	2	280
Total I. T. I. O.			71	15,955	71	16,412
McCulloch	Bowlegs	22– 8–6	3	380	3	355
Magnolia	Davis-BF	13– 8–6	2	800	2	750
Magnolia	Davis-M	13– 8–6	1	292	1	421
Magnolia	Hammond	10– 8–6	2	93	2	144
Magnolia	Rhodes	10– 8–6	2	5,240	2	5,062
Magnolia	Van Buskirk	9– 8–6	1	149	1	371
Total Magnolia			8	6,674	8	7,288
Mid-Continent	Baker	10– 8–6	4	1,860	4	1,818
Mid-Continent	Bowlegs	22– 8–6	1	0	1	0
Mid-Continent	Smith	12– 8–6	6	880	6	880
Total Mid-Continent			12	2,241	12	2,699
Minnehoma	Bowlegs	15– 8–6	3	112	3	239
Prairie	Gahagan	23– 8–6	4	710	4	795
Prairie	Harber	10– 8–6	8	4,275	8	4,565
Prairie	Jones	11– 8–6	4	815	4	895
Prairie	Templeton	12– 8–6	4	2,945	4	3,140
Prairie	Whitney	23– 8–6	4	560	4	575
Total Prairie			24	9,305	24	9,970
Pure	Reed	14– 8–6	15	3,834	15	3,904
Pure	Strother-D	14– 8–6	4	726	4	813
Pure	Strother-F	10– 8–6	3	1,543	3	1,385
Total Pure			22	4,560	22	6,102
Roxana	Taylor	16– 8–6	6	1,443	6	1,455
Shaffer	Lacey	14– 8–6	3	554	3	635
Sinclair	Bowlegs	22– 8–6	1	50	1	55
Sinclair	Cumsey	10– 8–6	4	6,937	4	7,919
Sinclair	Ellen	11– 8–6	6	1,840	6	1,860
Sinclair	Harjo	14– 8–6	3	740	3	755
Sinclair	Jones	8– 8–6	6	5,108	6	5,320
Sinclair	Taylor	10– 8–6	4	3,380	4	3,254
Sinclair	Walker	22– 8–6	4	820	4	995
Total Sinclair			28	18,875	28	20,158
Texas	Reed	14– 8–6	10	3,110	10	3,755
Tidal	Grayson	13– 8–6	3	1,260	3	1,465
Tidal	Harjoche	10– 8–6	6	2,235	6	2,535
Total Tidal			9	3,495	9	4,000
Twin State	Jones	10– 8–6	2	140	3	100
TOTAL BOWLEGS			307	95,306	305	100,135

LITTLE RIVER

Company	Farm	S.T.R.	Feb. 3rd Wells	Feb. 3rd Prod.	Jan. 27th Wells	Jan. 27th Prod.
Amerada	Fore	35– 8–6	2	1,105	2	1,165
Amerada	Nitey	35– 8–6	3	2,685	3	2,635
Total Amerada			5	3,790	5	3,800
Blackwell	Nitey	35– 8–6	7	3,765	7	3,740
Carter	Fish	1– 7–6	4	1,410	4	1,525
Carter	Jackson	11– 8–6	1	100	1	700
Total Carter			5	1,510	5	2,225
Continental	Cosar	2– 7–6	2	660	2	635
Gypsy	Brown	33– 8–6	1	50	1	50
Gypsy	Campbell	36– 8–6	2	187	2	635
Gypsy	Nungee	1– 8–6	1	50	1	57
Gypsy	Pottey	35– 8–6	3	642	3	597
Total Gypsy			8	929	8	851
Independent	Harris	23– 7–6	1	108	1	104
Indep. et al	Davis	2– 7–6	2	1,995	2	2,150
Total Independent			3	2,103	3	2,254
I. T. I. O.	Campbell	1– 7–6	1	154	1	159
I. T. I. O.	Dungan	35– 8–6	3	2,868	3	3,048
I. T. I. O.	House-MA	1– 7–6	1	340	1	350
I. T. I. O.	A-House-WE	1– 7–6	1	38	1	70
I. T. I. O.	B-House-WE	2– 7–6	3	1,839	3	1,867
I. T. I. O.	Jackson	1– 7–6	3	2,410	3	2,328
I. T. I. O.	McCulla	1– 7–6	3	1,029	3	1,050
I. T. I. O.	Nitey	2– 7–6	7	1,526	6	1,463
I. T. I. O.	Phoebe-A	36– 8–6	3	930	3	880
I. T. I. O.	Phoebe-B	36– 8–6	3	345	3	552
I. T. I. O.	Reed	1– 7–6	1	82	1	159
I. T. I. O.	Hull	26– 8–6	1	0	1	91
I. T. I. O.	Stokneche	1– 7–6	4	1,010	4	1,156
Total I. T. I. O.			34	12,641	33	13,143
Magnolia	Cruse	2– 7–6	1	720	1	750
Magnolia	Pottey	35– 8–6	2	555	2	630
Total Magnolia			3	1,275	3	1,380
Mid-Continent	Wadsworth	26– 8–6	7	1,120	7	1,210
Mid-Continent	Smith	12– 8–6	1	40	1	40
Total Mid-Continent			8	1,160	8	1,250
Pine et al	Pottey	35– 8–6	2	1,502	2	2,039
P & R	Dungan	35– 8–6	2	145	2	140
P & R	House	2– 7–6	4	2,320	4	2,220
Total P & R			6	2,465	6	2,360
Roxana	Smith	1– 7–6	1	15	1	10
Shaffer	Narcome	35– 8–6	1	0	1	100
Sinclair	Cosar	36– 8–6	1	1,180	1	930
Snowden et al	Tiger	13– 7–6	1	0	1	175
Superior	Wadsworth	1– 7–6	1	15	1	21
Texas	Coker	1– 7–6	3	640	3	643
Tidal	House	1– 7–6	3	1,730	3	1,805
Tidal	Johnson	1– 7–6	1	80	1	75
Total Tidal			4	1,810	4	1,880
TOTAL LITTLE RIVER			96	35,460	95	36,979

EARLSBORO

Company	Farm	S.T.R.	Feb. 3rd Wells	Feb. 3rd Prod.	Jan. 27th Wells	Jan. 27th Prod.
Amerada	Anderson	15– 8–6	3	1,540	3	1,570
Amerada	Cowden	4– 9–5	8	1,885	8	2,270
Amerada	Rodgers	3– 8–5	3	1,805	3	1,900
Total Amerada			14	5,230	14	5,740
Barnsdall	Brown	10– 9–5	4	2,220	4	2,556
Barnsdall	Bruner-F	2– 9–5	2	875	2	1,051
Barnsdall	Bruner-N	11– 9–5	4	1,478	4	1,404
Barnsdall	Cudjo	11– 9–5	1	26	1	26
Barnsdall	Davis-D	11– 9–5	3	1,867	3	1,968
Barnsdall	Davis-J	11– 9–5	4	1,121	4	1,117
Barnsdall	Davis-M	11– 9–5	3	219	3	220
Barnsdall	Gibson	9– 9–5	8	2,632	8	2,298
Barnsdall	Hearn	15– 9–5	1	6	1	6
Barnsdall	Ingram	4– 9–5	7	4,968	7	6,028
Barnsdall	Pack	10– 9–5	4	182	5	179
Barnsdall	Peter	10– 9–5	4	269	4	465
Barnsdall	Sango	2– 9–5	3	6,846	3	7,314
Barnsdall	Sebolka	15– 9–5	1	899	1	676
Barnsdall	Sullivan-H	11– 9–5	2	72	2	7
Barnsdall	Sullivan	10– 9–5	3	67	3	85
Barnsdall	Watsutke	12– 9–5	4	1,928	4	1,397
Total Barnsdall			58	25,673	59	21,797
Carter	Davis	13– 9–5	1	245	1	360
Carter	Payne	12– 9–5	3	130	3	120
Carter	Sango	2– 9–5	4	3,730	4	4,245
Total Carter			8	4,105	8	4,725
Continental	Kays	2– 9–5	2	370	2	0
Continental	Spencer	12– 9–5	4	1,395	4	1,220
Total Continental			6	1,765	6	1,220
Crosbie	Bryant	9– 9–5	2	0	2	0
Empire	Barker	12– 9–5	1	2,065	1	2,387
Empire	Edmundson	3– 9–5	3	1,252	3	782
Total Empire			4	3,277	4	3,169
Gypsy	Carter	11– 9–5	11	4,602	11	4,085
Gypsy	Bruner	10– 9–5	4	2,990	4	1,827
Gypsy	Earl	16– 9–5	1	17	1	20
Gypsy	Hunick	5– 9–5	1	2,115	1	2,132
Gypsy	Noble	12– 9–5	4	4,242	4	4,265
Gypsy	Peter	10– 9–5	6	220	5	187
Gypsy	Sango	1– 9–5	4	5,657	4	6,470
Gypsy	State	16– 9–5	4	1,330	4	1,305
Total Gypsy			35	21,183	35	19,298
Independent	Bruner	10– 9–5	4	160	4	70
Independent	Gaines	11– 9–5	2	1,700	2	1,760
Independent	Knapp	8– 9–5	5	2,697	5	2,972
Independent	O'Dell	4– 9–5	4	50	4	50
Independent	Sullivan	10– 9–5	4	20	4	25
Total Independent			19	4,627	19	4,877

(*Continued on Page 43*)

Seminole District Production by Companies and Leases, February 3 and January 27, 1928

(*Continued from Page 42*)

Company	Farm	S.T.R.	Feb. 3rd Wells	Feb. 3rd Prod.	Jan. 27th Wells	Jan. 27th Prod.
Magnolia	Bryant	9- 9-5	6	2,424	6	2,464
Magnolia	Cowden	4- 9-5	4	79	4	94
Magnolia	Dixon		1	21	0	0
Magnolia	Edmundson	3- 9-5	3	47	3	57
Magnolia	Holmsley	11- 9-5	8	2,987	8	4,059
Magnolia	Ingram	10- 9-5	1	30	1	30
Magnolia	Lena	10- 9-5	3	87	3	87
Magnolia	Seay	12- 9-5	9	4,369	9	4,605
Magnolia	Simpson	10- 9-5	4	272	4	336
Magnolia	Sparks	11- 9-5	7	2,396	7	2,324
Magnolia	Sullivan	12- 9-5	3	148	3	234
Total Magnolia			51	12,860	50	14,290
Mid-Continent	McCumber	9- 9-5	7	490	7	625
Mid-Kansas	Anderson	14- 9-5	4	370	4	325
Phillips	Dunnaway	15- 9-6	1	27	1	30
Phillips	Graham	9- 9-5	7	123	7	269
Total Phillips			8	150	8	289
Prairie	Baker	23- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	4	1,220	4	895
Prairie	Graham-C	3- 9-5	2	105	2	40
Prairie	Graham-O	10- 9-5	4	2,015	4	2,140
Prairie	Stidham	11- 9-5	13	4,315	13	4,512
Total Prairie			24	7,705	24	7,634
Roxana	Bayliss	17- 9-5	1	15	1	14
Roxana	Spencer	12- 9-5	2	2,007	2	2,092
Total Roxana			3	2,022	3	2,106
Shaffer	Clark	1- 9-5	5	1,181	5	1,230
Sinclair	Foreman	18- 9-5	1	15	1	15
Sinclair	Hollins	12- 9-5	3	430	3	617
Sinclair	Sango	2- 9-5	2	4,935	2	4,765
Total Sinclair			6	5,380	6	5,397
Skelly	Spencer	12- 9-5	2	606	2	248
Texas	Anderson	2- 9-5	6	940	6	1,295
Texas	Brown	10- 9-5	8	2,640	8	2,070
Texas	Rodgers	5- 9-5	4	4,970	4	5,230
Texas	Wilmont	10- 9-5	6	3,450	6	2,865
Total Texas			24	12,000	24	12,060
Tidal	Watkins	9- 9-5	8	2,935	8	3,125
Twin State	Barker	12- 9-5	3	102	3	135
Twin State	Hearn	2- 9-5	3	2,659	3	4,185
Total Twin State			6	2,761	6	4,230
TOTAL EARLSBORO			292	114,362	291	117,498
TOTAL LITTLE RIVER			96	35,460	95	37,488
TOTAL SEARIGHT			71	19,802	71	18,947
TOTAL MAUD			2	0	2	296
TOTAL BOWLEGS			307	95,306	304	100,133
TOTAL SEMINOLE			319	58,150	319	57,007
GRAND TOTAL SEMINOLE AREA			1,087	323,080	1,087	331,369
Avg. per well				297		305

Completions in Oklahoma and Kansas, Week Ended February 4, 1928

OKLAHOMA

Coal County

Company	Well No.	Location	Depth	Init. Prod.
I. T. I. O.	1	C NE NW 10-1-11 E	T.D. 1355	Dry

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Irelan et al.	1	SWc SE NW 13-17-10 E	T.D. 2917	Dry
Edgewood	2	NWc SW NW 17-14-10 E	T.D. 3495	Dry
Greives	4	SWc NW SE 12-19-8 E	2454-2509	25
Burlingame et al.	14	C SW NW 13-19-8 E	2384-2407	25
Empire	1	SEc NW NW 36-15-7 E	2531-2585	50
Roxana	2	NEc SE NW 18-19-9 E	2460-2495	1M
Mid-Continent	1	SWc NE NE 18-14-10 E	432-443	½M

Grady County

Company	Well No.	Location	Depth	Init. Prod.
Watchorn	1	SEc SW SW 12-4-8 W	2230-2250	40M
Bedner et al.	1	C SW NE 13-7-5 W	T.D. 2450	Dry
Milleur et al.	1	CWL E½ SE SE 23-4-8 W	T.D. 2374	Dry

Grant County

Company	Well No.	Location	Depth	Init. Prod.
Washoma et al.	1	NWc SW 36-28-3 W	3942-4209	6.4 M

Jefferson County

Company	Well No.	Location	Depth	Init. Prod.
Hedrick et al.	1	SEc SW SE NW 17-7-5 W	T.D. 1620	Dry

Kay County

Company	Well No.	Location	Depth	Init. Prod.
Dickery	1	NEc 30-28-1 W	T.D. 3714	Dry
Walters et al.	2	SWc NE 31-28-1 E	T.D. 895	Dry
Marland	2	CWD NWc NE SE 17-29-1 E	3343-3414	75 & 2.2 M
Dewey et al.	2	SWc SE NW 36-28-1 W	622-675	2M
Otstot et al.	1	C NW NW 1-27-1 W	832-882	.75M
Tidal	1	CSL N½ NE SE 18-29-1 E	1434-1434	½M

Le Flore County

Company	Well No.	Location	Depth	Init. Prod.
Le Flore	79	SEc NE SW 22-7-26 E	1600-1769	.85M
Collins	1	C NE NE 33-7-26 E	1624-1629	1¼M
Le Flore	81	SWc NE 22-7-26 E	T.D. 1840	Dry

Lincoln County

Company	Well No.	Location	Depth	Init. Prod.
Texas-Pacific	1	NWc 5-16-5 E	T.D. 4330	Dry
I. T. I. O.	2	NEc 6-16-5 E	4293-4312	505

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Hale et al.	2	NWc NE SW SE 6-14-19 E	811-850	15

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Champlin	4	SWc NE SE 14-11-11 E	2688-2692	125
Minnehoma	2	SWc NE NW 30-11-11 E	3617-3668	25
Riverland	2	SEc NW NW 30-11-11 E	3655-3663	250
Transcontinental	1	NWc NE NW 34-12-8 E	T.D. 4452	Dry

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Young et al.	1	SEc SW SW 20-14-11 E	T.D. 2496	Dry
Misener	2	11-15-14 E	T.D. 1930	Dry
Roberts	4	CSL SE NW 18-14-15 E	T.D. 1251	Dry
Prairie	2	NEc SE NW NW 26-13-13 E	T.D. 3004	Dry
Devonian	1	SEc NW 6-15-13 E	2093-2100	18M
Kirkland & Son	7	CEL SE NW 17-15-13 E	1364-1413	10
Jones et al.	2	C SW NE 14-14-13 E	1015-1080	10
Pine	4	CEL W½ E½ SE 27-14-13 E	1945-1959	2¾M

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Kewanee	5	NEc SE NE 3-26-6 E	2738-2809	565
Kewanee	6	NWc SE NE 3-26-6 E	2776-2846	885
McDonnell	1	SWc SE SE SW 6-21-9 E	1600-1740	3
Prairie	6	NEc SE NW 20-27-6 E	2916-2979	175
Prairie	7	SEc NE 20-27-6 E	2910-2976	150
Beacon	1	SWc NE 3-28-8 E	T.D. 2400	Dry
Phillips	1	SWc NE 11-26-6 E	T.D. 2901	Dry
Parker	5	SEc NW 11-26-6 E	T.D. 2928	Dry
Duffield et al.	1	NWc NE 27-21-12 E	T.D. 1550	Dry
Okla. Nat'l	779	SWc NE 33-21-12 E	T.D. 1618	Dry

Pawnee County

Company	Well No.	Location	Depth	Init. Prod.
Wallace et al.	1	NWc SW 29-20-9 E	1105-1115	6

Payne County

Company	Well No.	Location	Depth	Init. Prod.
Wood	1	SEc SW 33-19-5 E	3600-3628	30

Pontotoc County

Company	Well No.	Location	Depth	Init. Prod.
Louisiana	6	SEc SW NW 20-5-8 E	2700-2737	289 & 20M
Henry et al.	1	NEc SW 14-4-7 E	T.D. 1163	Dry
Ramsey	1	NEc NW NW 29-5-8 E	T.D. 2780	Dry

Pottawatomie County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	SEc SW SE 13-7-3 E	T.D. 4585	Dry
Barnsdall	7	NWc SE NE 9-9-5 E	4424-4437	35
Magnolia	1	NWc SE 36-7-3 E	3880-3920	38

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Barnsdall	4	NEc SW NW 11-9-5 E	4404-4422	180
Roxana	2	SWc NE 3-9-6 E	4298-4352	710
Pure	3	NEc SE NW 10-8-6 E	4227-4250	845
Tidal	7	NEc NW SW 10-8-6 E	4034-4123	425
I. T. I. O.	9	SEc NW 13-8-6 E	4363-4379	110
Texas	12	NW NE 14-8-6 E	4159-4190	300
Carter	4	SWc SE 15-8-6 E	4806-4820	69
Carter	3	SEc NE SE 23-8-6 E	4216-4229	550
Magnolia	1	SWc SE NE 35-8-6 E	4411-4416	560
Pine et al.	3	SEc SW NE 35-8-6 E	4255-4261	602
Carter	4	SEc SW NW 36-8-6 E	4335-4337	525
Shaffer	1	SWc NE 36-8-6 E	4724-4729	400
Carter	3	NWc NW SE 23-8-6 E	T.D. 4871	Dry
Independent et al.	2	NWc SE SW 15-8-8 E	T.D. 3915	Dry
Magnolia	1	NWc NE SE 1-7-6 E	T.D. 4426	Dry

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	2	NEc 32-1-8 W	T.D. 2640	Dry
McAlester et al.	2	SEc SW SW NW 27-1-8 W	2199-2225	50
Pace et al.	2	SWc NW SE 12-2-8 W	1524-1542	10
Magnolia	1	SEc SW NE 13-1-4 W	1958-2730	70M
Magnolia	2	NEc NW NE 13-1-4 W	2417-2690	100

Tulsa County

Company	Well No.	Location	Depth	Init. Prod.
Sheridan	2	NEc SW NE 27-19-11 E	2263-2384	10
Holmes et al.	1	NWc NE SE 24-19-10 E	T.D. 2627	Dry
Glidden	1	SWc NW SE NW 23-19-11 E	T.D. 2225	Dry
Dresser	1	SWc SE 16-19-14 E	T.D. 1785	Dry
Savoy	1	SEc NW NE 8-16-14 E	T.D. 1944	Dry

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
Striker	2	NEc SW SW 29-18-16 E	T.D. 1000	Dry

KANSAS

Barton County

Company	Well No.	Location	Depth	Init. Prod.
Huffine et al.	1	NEc SE NE 17-19-11 W	T.D. 5090	Dry

Butler County

Company	Well No.	Location	Depth	Init. Prod.
Madison et al.	1	SEc NW NW 21-28-5 E	T.D. 3205	Dry
Dixie	1	SEc SW SE 21-25-4 E	2554-2601	40
Rosenthal et al.	8	NEc SE SE 4-27-6 E	3153-3161	250

Cowley County

Company	Well No.	Location	Depth	Init. Prod.
Trees	1	SWc SE NE 21-31-4 E	2351-2394	197
Roxana	1	SEc 20-30-3 E	T.D. 1858	Dry
Barnsdall	1	SEc NW 27-33-3 E	T.D. 3611	Dry

Elk County

Company	Well No.	Location	Depth	Init. Prod.
Union	22	C NW NE 14-31-10 E	1128-1133	1¼M

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Bisagno et al.	1	NEc NW SE 36-24-12 E	1715-1738	15
Empire	1	NWc SW NW 9-26-13 E	1494-1500	35
Bisagno et al.	2	NWc SE SW 10-25-13 E	1450-1474	15
Eureka	1	SEc NW 35-23-11 E	T.D. 1975	Dry
Golden et al.	1	NEc NW 8-23-13 E	T.D. 1830	Dry

Russell County

Company	Well No.	Location	Depth	Init. Prod.
Mid-West	3	NWc NE NE 5-14-15 W	3063-3105	120

Sumner County

Company	Well No.	Location	Depth	Init. Prod.
Frost Dig	1	SWc 25-30-2 W	1931-1985	1M
Washahoma et al.	2	NEc SE 26-31-2 E	1867-1913	50
La Robb	2	NVRW 14-32-2 E	2022-2112	38
Derby	2	Blk-87	2005-2112	170
Roxana	5	SWc NW SE 14-32-2 E	1906-2095	1000
Roxana	3	Tract 3, 32-2 E	2007-2101	300
Roxana	1	Tract 5, 32-2 E	2014-2105	800
Wasson et al.	2	SEc SW 14-32-2 E	1997-2127	1500

Form Committee to Study Water And Gas at Hendricks

Staff Special—By Telegraph
HOUSTON, Feb. 6

NEED for concerted action in dealing with water and gas problems in the Hendricks development area of Winkler county has resulted in the forming of an operating committee composed of designated representatives of principal companies to co-operate with the Oil and Gas division of the railroad commission of Texas in clarifying a serious field situation.

The first field meeting is to be held Feb. 7, at the Wickett camp of the Southern Crude Oil Purchasing Co., for discussion of methods to be pursued in finishing wells or repairing old completions in order that better operating results could be effected. About 30 wells in Hendricks field are now making some quantity of water with the oil production. In some cases this results from blowouts brought about by gas migrating to upper water zones through defective casing seats and in other instances the water comes with the oil from the pay horizons of the field.

After studying field conditions and attempting to fix the blame where it belongs to improper well conditions the operating committee will make recommendations for repair work by majority vote. Then the offending operator may follow out the committee recommendations or fight out the issue with the railroad commission which would act under its conservation powers should the well owner disagree with the majority conclusions reached by the operating committee.

The effect of the plan, however, would be for the railroad commissioner to have the backing of a majority of the companies in the field, because of the operating committee recommendations.

Plans for such a co-operative movement were laid at the Fort Worth meeting last week which was presided over by Chairman Parker of the Oil and Gas division of the railroad commission. Deputy Supervisor Morehouse of the Oil and Gas division who is stationed in west territory is chairman of the Hendricks field operating committee. Company representatives on the committee are to be field executives of the several interests operating there who are available for immediate call whenever the need for a meeting materializes.

The purpose of the meetings will be to bring about as nearly as possible the best field practices in drilling and completing wells with the idea of eliminating gas blowouts and greater incursions of water than necessary.

The Fort Worth meeting dealt both with old problems such as were discussed on page 46 of the Feb. 1, issue of NATIONAL PETROLEUM NEWS, and future procedure to be taken. General agreement was reached to correct troubles now existing and the operating committee plan was unanimously adopted after motion by John R. Suman, general production executive of Humble Oil and Refining Co.

Completions in N.E. Central, West, Panhandle and North Texas, Week Ended February 4, 19

NORTH AND EAST CENTRAL

Anderson County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Humble	3-Spencer	Clemmons	T.D. 3465	Dry

Brown County

Richards	1-Curry	Betts	1106-1120	220
Schivonor et al	2-Truehart	Laman	1122-1129	10
Nat. Gas & Fuel	1-Ray	Ford	1510-1520	.5 M
Nat. Gasl & Fuel	1-Capps	Sullivan	1864-1884	½M
Lloyd	1-Collins	Smith	437-457	5
Kone Prod	9-Hickman	Benson	T.D. 1298	Dry
Crystie	1-Keller	Delgado	T.D. 1138	Dry
Atlantic et al	1-King	Williams	T.D. 1392	Dry

Callahan County

Gibson	2-Snider	BB&BC	T.D. 922	Dry
Gifford	1-Hatchett	D&DA	T.D. 907	Dry
Bradstreet	4-Walker	Vigal	1675-1717	100
Mook et al	4-Baum	Vigal	1684-1727	4
Warren et al	3-Brandon	TE&L	414-430	4

Coleman County

English et al	1-Harris	San Augustine	3982-4095	40&5 M
Coleman Nat	1-Schirmacker	Martinez	1405-2209	1M
Gracey et al	1-Beck	TPRR	1602-1605	3½M
Anzac	1-Overall	GH&H	T.D. 3235	Dry
Shoupe et al	1-Chambers	Stanes	T.D. 1683	Dry

Eastland County

Edwards	1-Thompson	McLennan	T.D. 1508	Dry
Root	3-Ray	H&TC	T.D. 4009	Dry
Hoosier	8-Fox	McLennan	1612-1631	100
States	7-Calvertt	H&TC	1631-1670	3
States	6-Harrell	H&TC	3534-3565	3M
Latshow et al	1-Harbin	H&TC	1470-1515	40&6M
Mays et al	1-Niver	H&TC	1381-1403	40&½M
Adams	4-Groves	S&P	3925-3930	240
Barkley et al	2-Duffer	McLennan	2981-3005	8M
Parsons	3-Blackwell	McLennan	2985-2995	900&4M
McGee et al	2-Linquist	ETRR	1299-1305	2M

Freestone County

Roxana	1-Marshall	Marshall	T.D. 877	Dry

Limestone County

Hoover et al	1-Richardson	Bridgeman	T.D. 2236	Dry

NORTH TEXAS

Archer County

Reeder et al	4-Farmer	N A R	1500-1505	35
Rose	1-Perkins	ATNCL	T.D. 1704	Dry
Stidham et al	1-Medlin	H&TC	T.D. 2505	Dry
Burleson et al	1-Young	TE&L	T.D. 1601	Dry
Long et al	1-Hamilton	Crawford	T.D. 1402	Dry

Cooke County

Green et al	1-Campbell	Levett	T.D. 1662	Dry

Montague County

Seigler et al	1-Hinton	Coates	789-797	20

Wichita County

Company	Well Farm	Location Survey	Depth	In Pr
Magnolia	13-Watkins	KWVFL	1523-1525	
O'Donohue et al	1-Hodge	H&TB	T.D. 1900	Dry
Archer	1-Kemp	Peterswick	T.D. 1881	Dry

Wilbarger County

Fain et al	1-Waggoner	H&TC	T.D. 2701	Dry
Phillips	10-Waggoner	H&TC	2382-2390	108
Barkley et al	1-Waggoner	H&TC	2360-2380	170

Wise County

Booneville	1-Carter	Hendrick	T.D. 1410	Dry

Young County

Halbrook et al	1-McDonald	CPRR	T.D. 600	D
Ridgeway	1-Water	TE&L	T.D. 999	Dr
Reed et al	1-Langston	TE&L	580-595	36

PANHANDLE

Gray County

Danciger et al	5-Jackson	H&GN	T.D. 3011	535
Gulf Prod	3-Bowers	H&GN	2750-2941	3150&5M
Texas	1-Bowers	H&GN	2440-2895	4448&54M
Midwest Explo	1-Bowers	H&GN	2710-3705	865&6M
M O & G	1-Morse	H&TC	2303-2511	200&4M

Hutchinson County

Gray et al	3-Weatherly	M&C	2983-3053	25
El Rio	1-Cockrell	BS&F	2985-3019	25
Ralph et al	1-Smith	M&C	2680-2805	30

Wheeler County

Piney et al	1-Walker	H&GN	2443-2446	80
Clarke	1-Gordon	H&GN	1765-1980	11M

WEST TEXAS

Crane County

Independent	2-Lassiter	Univ.	3045-3093	200
Magnolia	16-Hardwick	Univ.	2823-2930	300
Gulf Prod	46-McElroy	CCSD	2805-2866	720
Simms et al	11-Univ.	Univ.	2840-2915	50

Pecos County

Gulf Prod	6-Yates	Runnels	1242-1305	360 (1 hr.)
Roxana	6-Tippett	TC	1235-1374	941 (30 Min.)
Simms	4-Smith	TC	1214-1258	1000 (1 hr.)
Simms	5-Smith	TC	1188-1280	493 (30 Min.)
Simms	6-Smith	TC	1088-1132	250 (1 hr.)
California	6-Smith	TC	1507-1619	150 (1 hr.)
Humble	7-Smith	GC&SF	1266-1446	387 (1 hr.)
Roxana	3-Smith	TC	1560-1753	179
Roxana	5-Smith	TC	1419-1540	440
Mid-Kansas et al	12-Yates	I&GN	1015-1086	270 (1 hr.)
Mid-Kansas et al	2-Yates	I&GN	1127-1296	1300 (1 hr.)
Mid Kansas et al	2-Smith	TC	1095-1245	120
Henshaw	1-Sweatt	T&STL	T.D. 2545	Dry
Allsman et al	11-State	River bed	T.D. 2100	Dry
Sun	1-Yates	I&GN	T.D. 1224	Dry

Reagan County

Henshaw et al	1-Univ.	Univ.	T.D. 2550	Dry

New Field Operations in Oklahoma, Kansas, North Central, Panhandle, and West Texas, Week Ended February 4, 1928

OKLAHOMA

Carter County

Company	Well No. Farm	Location
Magnolia	3-Hefner	NEc SW 33-1-3 W
Magnolia	5-Bumpas	SWc NW SE 33-1-3 W

Comanche County

Green et al	1-Wilson	C NE SW 14-1-12 W

Creek County

Madden et al	1-Watson	SWc NW SW 20-16-8 E
Holmes et al	1-Stidham	SEc NE NW SE 24-17-9
Duquesne	4-Walker	NEc NW NW 23-17-8 E
Pure	3-Weaver	NWc NE NW 16-18-11 OWD
Haddock et al	1-Cook	SEc NE 14-18-9
Roxana	5-Sewell	NWc NE NE 18-19-9

Grady County

Carter	2-Wham	SWc NW SE 34-3-5 W OWD
Watchorn	1-Pettit	C SW NE 14-4-8 W
Twin State	1-Pettit	C NW NE 14-4-8 W OWD
Little Nick	4-McCaughtry	SEc NE NW NW 35-5-8 W

Grant County

Argo	3-Crouch	NWc NE NW 23-27-3 W OWD
Argo	1-Swaggart	SWc SE SE 15-27-3 W OWD

Jefferson County

Becker et al	1-Seay	SWc SE SW 34-6-5 W

Kay County

Otstot Dev	3-Barr	NWc SE NW 16-27-1 W OWD
Otstot et al	3-School Land	NEc NW SW 36-28-1 W
Royal	1-Fulton	C SE NE 12-28-1 W
Harris et al	1-Fulton	C SW SE 12-28-1 W
Harris et al	1-Fulton	SWc NW 30-29-1 E
Kiowa et al	1-School Land	NEc 36-29-1 W

Muskogee County

Halford-Ford	2-Clark	SEc SW NW 6-14-19 E

Okfuskee County

Edgewood et al	1-McKellop	NWc 5-13-10

Okmulgee County

Moffitt et al	6-Grayson	CWL SE NW 16-11-12
Campbell et al	2-George	CSL NE SW 2-15-12
Beale et al	11-Rentie	CELW½ SE NW 35-15 14 E

Osage County

[illegible]w England	1-	SEc SW 17-23-10

Pontotoc County

[illegible]da Cement	1-Mathews	C SW NW 24-4-7 E

Pottawatomie County

[illegible]erce	1-Sanders	NWc SW 20-7-4 E
[illegible]ick	1-Gose	SEc NE 26-7-3 E
Magnolia	1-School Land	SWc NE 36-7-3 E OWD

Seminole County

Ramsey	2-Hulwa	SEc SW NE 7-5-8 E
Mid-Continent	1-Fleet	NEc NW SE 7-5-8 E
Mid-Continent	1-Harjo	SEc NE NE 14-5-7 E
Superior	1-Sango	SWc NW NW 1-9-5 E
Superior et al	1-Walker	SEc NE NE 2-9-5 E

Stephens County

Magnolia	3-Matin	NWc NE NE 13-1-4 W
Magnolia	2-Green	NWc NE 13-1-4 W
Humble	2-Perkins	SWc SE 12-1-4 W
Amer Pipe Line	1-Bond	NWc SW 7-2-7 W
McAlester et al	2-Dexter	NEc SE SE NW 34-1-8 W
Margay	5-Lane	SEc SW NW SW 7-1-8 W OWD
Magnolia	1-Duke	SWc NW NW 2-1-5 W OWD
Smith-Law	1-Malechi	NEc SW NE 31-1-8 W

Tulsa County

Regal	4-Mitchell	CE½ E½ SE 5-19-11
Commercial Drlg	1-Ishmael	SWc NE 24-18-12

Wagoner County

Deems	10-Sarty	SWc NE SW 31-18-15 E

KANSAS

Butler County

La Robb	1-Sluss	SEc NE SW 6-27-6 E

Cowley County

Roxana	1-Martin	NWc SW 19-31-3 E
Texas	3-Little	NEc NW SE 31-31-4 E
Roth et al	1-Wagner	SWc 31-33-4 E

Elk County

Landon et al	1-Beatty	SWc SE NW 30-30-11 E

Greenwood County

Empire	19-Duby	NEc NW NW 23-22-11 E
Theta	6-Fankhouser	NEc SE SE 23-22-12 E
Christy et al	2-Counoughey	SEc SW NE 36-24-12 E
Cross et al	3-Hoover	NWc NE SE 36-24-12 E
Rogers et al	1-Wagner	NWc 8-27-11 E

Marion County

Phillips	2-McCoy	SEc NE NE 22-17-4 E

Sumner County

Roxana	5-Shore	SEc SW SE SE 24-31-2 E
Dickey et al	1-Tedger	C SE SW 18-35-1 E

Wilson County

Culp et al	1-Willoughly	NWc NE 25-27-13 E

Woodson County

Pryor et al	1-Sasse	NWc NE SW 36-23-13 E

TEXAS

NORTH AND NORTH CENTRAL

Archer County

Company	Well No. Farm	Location	Survey
Gulf Prod	1-Taber	Blk-9	DCSL
Continental et al	8-Wilson	Sec-114	ATNC
Gohlke et al	1-Parish	Blk-232	Townsite
Gulf Prod	1-Netherton	Sec-95, Blk-4	ATNC
The Texas	1-Garvey	Sec-1856	TE&L

Brown County

Company	Well No. Farm	Location	Survey
Taylor et al	1-Lewis	Blk-624	Kenney
Pandem	2-Curry	.....	Betts
Syndicate	1-Curry	.....	Betts
Westbrook et al	2-Farmer	Sec-46	HT&B
Williamson et al	2-Eddington	Blk-141	Mitchell
Kone Prod	9-Hickman	Blk-783	Benson

Eastland County

Charter	1-Roper	Sec-808	BBB
Clayton et al	4-Jones	Sec-43, Blk-4	H&TC
Parsons	1-Howard	Sec-12, Blk-2	McLennon Co. SCHL
Teatsworth	4-Citizens Water-Works	Sec-6, Blk-6	ETRR

Erath County

Cowan et al	1-Smith	.....	Espinosa

Foard County

Roxana et al	2-Mathews	Sec-3	EC&SF

Freestone County

Roxana	1-Marshall	Abstract-A-687	Marshall

Limestone County

Hunt et al	1-Williams	.....	Varetta

McCulloch County

Gilson	1-Citizens Nat'l Bk. Lds.	Blk-943	Halzgrife

Montague County

Texas	3-Hinton	.....	Coats
Continental et al	4-McGaughtry	.....	Chacon
Petroleum Prod	2-Howard	.....	Robertson
Gulf Prod	1-Bouldin	.....	Chacon
Oil Operators Trust	1-Bouldin	.....	Chacon
Carter et al	1-Bouldin	.....	Chacon
Carter et al	1-Heaton	.....	Buchman
Dickey	1-Dits	Blk-67	TCSL
Chapman	1-Bybee	Sec-19, Blk-11	Calhoun Co. SCh. LD.

Navarro County

Alexander et al	1-Humphreys	.....	Autrey

Shackleford County

Nash et al	1-Moberly	Sec-13, Blk-11	T&P

Stephens County

Hanlon	1-Wilson	Sec-39, Blk-5	T&P
Lydon et al	1-Anderson	Sec-39, Blk-7	T&P

Wichita County

Hammon	1-Waggoner	Blk-7, Abstract 454	George
Magnolia	13-Watkins	Blk-46	KWFV

Wilbarger County

Texas	3-Castleberry	Sec-66, Blk-14	H&TC
Consolidated	1-Waggoner	Sec-37, Blk-14	H&TC
Staley et al	1-Waggoner	Sec-25, Blk-4	H&TC
Barkley et al	2-Waggoner	Sec-24, Blk-4	H&TC
Lawson	2-Waggoner	Sec-25, Blk-4	H&TC
Waggoner	2-Waggoner	Sec-25, Blk-4	H&TC

Young County

Riggs	1-Goldston	Sec-10, Abstract-1693	Meyer
Rannel	2-Jack	Blk-24	YCSL
Williams et al	1-Casey	Sec-1486	TE&L
Tidwell Trustee	1-Costello	Blk-C, Abstract-161	Johnson

PANHANDLE

Carson County

The Texas	1-Cobb	SEc NE SE Sec-202, Blk-3	I&GN

Gray County

Gulf Prod	5-Bowers	SWc SE NW Sec-89, Blk-B-2	H&GN
Gulf Prod	4-Bowers	SE SW NW Sec-89, Blk-B-2	H&GN
Briggs et al	2-Morse	NWc S½ SE Sec-2, Blk-26	H&GN
Amerada	1-Morse	SEc SW Sec-2, Blk-26	H&GN
Delaney et al	6-Jackson	SWc SE SW Sec-88, Blk-B-2	H&GN
Hardendrof Drlg	1-Bowers	NWc E½ SW Sec-63, Blk-B-2	H&GN
Phillips	1-Bowers	NWc E½ SW Sec-63, Blk-B2	H&GN

WEST TEXAS

Howard County

Sweeney et al	3-Chalk	Sec NW Sec-124, Blk-29	W&NW
Magnolia	1-Hyman	SWc Sec-65, Blk-29	W&NW
Magnolia	10-Chalk	C NE NW Sec-124, Blk-29	W&NW
Magnolia	10-Chalk	NE NE Sec-124, Blk-29	W&NW
Coyle et al	4-Roberts	NWc SE NW Sec-156, Blk-29	W&NW
Schermerhorn et al	1-Roberts	SWc NE Sec-137, Blk-29	W&NW
Sprague	1-Roberts	NWc Sec-156, Blk-29	W&NW
Gulf Prod	4-Chalk	SWc NW SW Sec-125, Blk-29	W&NW
Marrick et al	3-Clay	NEc SE SE Sec-126, Blk-29	W&NW
Vitex	2-Clay	SWc NE SE Sec-126, Blk-29	W&NW

Mitchell County

Boehen Drlg	1-Hyman	C NW SE Sec-90, Blk-29	W&NW

Pecos County

Mid-Kansas et al	13-Smith	Sec-34, Blk-194	GC&SF
Marland	13-Yates	Sec-60, Blk-1	I&GN
Allsman et al	15-River Bed	Sec-60, Blk-1	I&GN
Marland	12-Yates	Sec-60, Blk-1	I&GN
Marland	11-Yates	Sec-60, Blk-1	I&GN

Tom Green County

World	1-Pulliam	SE NW NE Sec-25, Blk-4	H&TC
World	2-Pulliam	NW SE SW Sec-18, Blk-4	H&TC
World	1-March	C SW SW Sec-33, Blk-4	H&TC

Winkler County

Magnolia	7-Hendricks	NE SW NE Sec-29, Blk-B-5	PSL
Gulf Prod	12-Hendricks	SE NE NW Sec-34, Blk-B-5	PSL
Gulf Prod	11-Hendricks	NE SE NW Sec-34, Blk-B-5	PSL
Independent	1-McCabe	C NW NW Sec-36, Blk-B-5	PSL
The Texas	5-Hendricks	NW NE SW Sec-4, Blk-B-5	PSL
Gulf Prod	13-Hendricks	SWc NW Sec-40, Blk-B-5	PSL

PROPERTIES OF 22 SAMPLES OF CALIFORNIA CRUDE

Following are tabulations from an analysis of California crude made by the Bureau of Mines, reported in detail in Bulletin Serial No. 2846.

Sample No.	24489	24490	24491	26326	26327	26329	24492	26330	26331	26332	26333
Field	Torrance	Torrance	Torrance	Inglewood	Inglewood	Inglewood	Domizguez	Rosecrans	Rosecrans	Rosecrans	Rosecrans
County	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles	Los Angeles
Zone	Del Amo	Del Amo	Del Amo	.....	.....	.....	First	Howard Park	Howard Park	Upper Athens	Howard Park
Properties of Crude											
A. P. I. Gravity	25.0	13.8	15.3	17.5	18.2	18.4	33.0	37.8	38.8	36.4	35.4
Per Cent Sulfur	1.58	3.29	2.97	2.65	2.59	2.60	0.93	0.53	0.60	0.57	0.48
Viscosity at 70° F. (Sec.)	204	6000	6000	3000	1900	1625	58	41	40	43	50
Viscosity at 100° F. (Sec.)	112	5150	2560	950	650	600	47	40	39	40	42
Pour Test °F	—5	30	25	—5	—5	—5	—5	—5	—5	—5	10
Light Gasoline Fraction %	3.2	.....	.....	0.9	0.5	0.7	10.2	8.6	11.7	9.0	7.6
A. P. I. Gravity	60.5	.....	.....	.....	54.4	54.2	64.8	66.7	67.0	63.7	64.5
Total Gasoline Fraction %	19.4	.....	4.6	6.4	6.2	10.0	34.5	40.5	42.6	38.8	35.1
A. P. I. Gravity	51.3	.....	40.4	44.1	47.4	47.2	54.2	54.4	55.4	51.3	53.7
Kerosene Fraction %	.....	.....	.....	.....	.....	.....	5.0	11.7	12.2	6.6	5.9
A. P. I. Gravity	.....	.....	.....	.....	.....	.....	40.2	41.3	41.3	40.6	42.1
Gas Oil Fraction %	22.6	17.1	15.3	19.8	23.9	21.7	16.6	12.8	12.4	20.6	20.5
A. P. I. Gravity	34.8	31.9	30.8	31.9	32.8	31.3	34.8	34.6	35.2	36.8	36.2
Total Lubricating Distillate %	20.8	22.4	24.7	7.9	8.1	7.2	15.6	13.4	11.8	12.3	15.1
Nonviscous %	7.5	6.5	7.0	7.9	8.1	7.2	7.3	7.5	6.6	6.9	8.4
Sp. Gr.	.891–.902	.900–.918	.899–.920	.902–.923	.898–.926	.902–.926	.870–.898	.866–.894	.865–.893	.864–.892	.866–.894
A. P. I. Gravity	27.3–25.4	25.7–22.6	25.9–22.3	25.4–21.8	26.1–21.3	25.4–21.3	31.1–26.1	31.9–26.8	32.1–27.0	32.3–27.1	31.9–26.8
Medium %	5.5	5.5	7.5	Indet.	Indet.	Indet.	4.2	3.0	3.1	3.6	3.8
Sp. Gr.	.902–.914	.918–.931	.920–.932	.....	.....	.....	.898–.908	.894–.905	.893–.907	.892–.908	.894–.905
A. P. I. Gravity	25.4–23.3	22.6–20.5	22.3–20.3	.....	.....	.....	26.1–24.3	26.8–24.9	27.0–24.5	27.1–24.3	26.8–24.9
Viscous %	7.8	10.4	10.2	Indet.	Indet.	Indet.	3.6	2.9	2.1	1.8	2.9
Sp. Gr.	.914–.927	.931–.953	.932–.946	.....	.....	.....	.908–.917	.905–.915	.907–.916	.908–.915	.905–.913
A. P. I. Gravity	23.3–21.1	20.5–17.0	20.3–18.1	.....	.....	.....	24.3–22.8	24.9–23.1	24.5–23.0	24.3–23.1	24.9–23.5
Vacuum Distillation at 40 MM.											
Up to 200%	3.6	0.7	0.4	2.0	3.1	3.5	2.9	3.5	3.3	3.9	4.2
A. P. I. Gravity	30.4	.....	.....	26.3	27	26.4	31.7	32.3	33.6	33.4	33.2
Vis. at 100 (Sec.)	43	41	.....	44	42	42	42	42	40	40	41
200-225%	4.8	5.0	5.1	5.9	5.9	4.7	4.7	5.5	4.3	4.0	5.0
A. P. I. Gravity	27.3	25.6	25.6	25.2	25.9	25.4	31.3	32.3	33	33.2	32.7
Vis. at 100 (Sec.)	50	51	52	52	52	50	49	48	46	47	47
225-250%	5.7	6.1	5.1	5.5	5.4	5.6	4.4	3.5	3.9	4.1	4.9
A. P. I. Gravity	26.4	22.8	22.6	22.6	22	22.3	28.2	29.5	29.7	30.2	29.1
Vis. at 100 (Sec.)	73	89	82	80	77	72	65	61	60	58	61
250-275%	5.3	5.9	7.7	5.0	5.0	5.6	4.0	3.6	3.3	3.5	3.9
A. P. I. Gravity	23.8	20.5	20.8	19.4	19.5	19.7	25.7	26.8	27	27.3	27
Vis. at 100 (Sec.)	141	191	164	155	155	150	107	93	97	91	95
275-300%	7.4	7.7	8.9	5.2	7.7	6.4	5.2	4.3	3.7	4.0	5.0
A. P. I. Gravity	22.1	18.2	19	18.2	19	18.4	23.8	24.3	24.3	24.5	24.7
Vis. at 100 (Sec.)	314	400	400	.....	.....	.....	227	223	210	195	210
Percentage Carbon Residue of Residuum after Vacuum Distillation	13.2	14.7	19.8	13.4	14.3	15.4	11.5	10.1	10.0	10.0	22.5
Key Fraction No. 1 Distilling at atmospheric pressure between 482-527° F.											
Sp. Gr.	0.856	0.872	0.872	0.868	0.869	0.871	0.847	0.836	0.834	0.835	0.839
A. P. I. Gravity	33.8	30.8	30.8	31.5	31.3	31.0	35.6	37.8	38.2	38.0	37.2
Key Fraction No. 2 Distilling at 40 mm. Vacuum between 527-572° F.											
Cloud Point °F	82	—5	—5	—5	—5	—5	80	90	85	85	85
Base of Crude	I	N	N	N	N	N	I	I	I	I	I

Sample No.	26334	26335	26336	26337	26328	23418	26202	24602	24603	24316	24317
Field	Rosecrans	Ventura Ave.	Ventura Ave.	Ventura Ave.	Seal Beach	New Port	Devil's Den	Devil's Den	Devil's Den	Half Moon Bay	Los Gatos
County	Los Angeles	Ventura	Ventura	Ventura	Orange	Orange	Sonoma	Kern	Kern	San Mateo	Santa Clara
Zone	Maxwell	Ventura Deep	Ventura Deep	Ventura Deep	.....	.....	Petaluma	.....	.....	.....	.....
Properties of Crude											
A. P. I. Gravity	41.7	30.6	30.2	30.6	24.2	12.3	19.7	12.7	32.8	44.3	39.0
Per Cent Sulfur	0.52	1.18	1.17	1.20	1.23	1.99	0.63	0.57	0.14	0.19	0.14
Viscosity at 70° F. (Sec.)	36	105	105	105	366	.....	573	6000	49	33	37
Viscosity at 100° F. (Sec.)	34	69	64	67	159	.....	223	4400	.....	32	34
Pour Test °F	—5	20	20	20	15	.....	—5	55	25	—5	—5
Light Gasoline Fraction %	11.1	7.7	7.0	8.2	1.9	.....	.....	.....	.....	16.4	14.2
A. P. I. Gravity	69.2	69.5	70.6	70.1	58.2	.....	.....	.....	.....	67.8	68.6
Total Gasoline Fraction %	51.6	26.3	26.6	27.0	16.0	.....	2.1	.....	10.5	60.4	41.9
A. P. I. Gravity	55.9	56.4	56.7	56.9	51.3	.....	45.8	.....	44.3	56.9	56.9
Kerosene Fraction %	12.1	3.7	4.2	4.3	4.6	.....	.....	.....	13.5	6.1	6.1
A. P. I. Gravity	41.5	41.3	41.5	41.3	40.9	.....	.....	.....	40.6	41.7	40.9
Gas Oil Fraction %	10.6	16.7	17.3	16.7	17.4	9.5	33.3	14.0	43.1	14.6	20.7
A. P. I. Gravity	35.4	34.6	35.0	34.6	34.6	28.9	31.9	28.4	34.2	35.8	34.0
Total Lubricating Distillate %	9.2	16.5	13.3	16.1	18.6	21.3	26.7	22.0	19.6	11.8	15.6
Nonviscous %	5.2	8.1	8.3	8.2	10.0	5.3	11.3	9.4	12.8	4.9	8.1
Sp. Gr.	.866–.896	.872–.902	.873–.899	.876–.910	.873–.899	.910–.935	.900–.924	.913–.932	.881–.911	.871–.900	.879–.908
A. P. I. Gravity	31.9–26.4	30.8–25.4	30.6–25.9	30.0–24.0	30.6–25.9	24.0–19.8	25.7–21.6	23.5–20.3	28.0–23.8	31.0–25.7	29.5–24.3
Medium %	2.9	5.6	5.0	5.4	5.9	4.0	6.5	5.8	6.8	3.0	4.3
Sp. Gr.	.896–.912	.902–.914	.899–.918	.910–.918	.899–.918	.935–.953	.924–.935	.932–.947	.911–.920	.900–.919	.908–.915
A. P. I. Gravity	26.4–23.7	25.4–23.3	25.9–22.6	24.0–22.6	25.9–22.6	19.8–17.0	21.6–19.8	20.3–17.9	23.8–22.3	25.7–22.5	24.3–23.1
Viscous %	1.1	2.8	.....	2.5	2.7	12.0	8.9	6.8	.....	3.9	3.2
Sp. Gr.	.912–.919	.914–.919	.....	.918–.922	.918–.927	.953–.978	.935–.946	.947–.965	.....	.919–.942	.915–.920
A. P. I. Gravity	23.7–22.5	23.3–22.5	.....	22.6–22.0	22.6–21.8	17.0–13.2	19.8–18.1	17.9–15.1	.....	22.5–18.7	23.1–22.3
Vacuum Distillation at 40 MM.											
Up to 200%	2.7	3.0	4.0	2.6	2.1	10.1	5.5	1.6	7.8	2.3	4.0
A. P. I. Gravity	33.4	31.3	31.9	31.5	31.1	28.8	26.4	24.5	29.9	31.7	31.7
Vis. at 100 (Sec.)	40	41	42	42	41	34	44	41	40	42	40
200-225%	3.5	5.8	6.8	5.9	6.4	4.0	7.7	7.3	8.7	3.8	5.5
A. P. I. Gravity	32.8	31.1	30.4	30.8	31.1	21.3	25.6	22.6	28.4	31	30.0
Vis. at 100 (Sec.)	47	48	51	48	48	60	52	60	48	50	47
225-250%	2.8	4.0	2.5	4.1	5.7	5.0	8.1	7.4	6.0	2.8	5.1
A. P. I. Gravity	29.1	28	27.3	26.1	27	18.7	22.1	20.2	26.3	27.3	26.4
Vis. at 100 (Sec.)	60	68	69	63	63	129	79	98	64	70	63
250-275%	2.4	4.6	4.7	4.7	5.2	5.4	6.5	8.7	5.5	3.0	3.8
A. P. I. Gravity	26.8	24.9	25.7	23.8	25.7	14.5	20	16.9	24.3	24.2	24
Vis. at 100 (Sec.)	91	105	105	105	105	400	157	238	88	126	106
275-300%	3.1	5.6	2.2	5.1	5.4	6.3	6.9	.....	4.9	4.4	5.0
A. P. I. Gravity	24.0	23.3	23.3	22.6	22.6	13.5	18.7	.....	23.0	20.5	23
Vis. at 100 (Sec.)	185	200	150	200	200	.....	406	.....	178	400	220
Percentage Carbon Residue of Residuum after Vacuum Distillation	14.9	13.9	12.7	13.8	14.3	20.0	14	11.8	6.7	9.5	8.1
Key Fraction No. 1 Distilling at atmospheric pressure between 482-527° F.											
Sp. Gr.	0.834	0.846	0.845	0.846	0.845	.....	0.877	0.888	0.858	0.845	0.851
A. P. I. Gravity	38.2	35.8	36.0	35.8	36.0	.....	29.9	27.9	33.4	36.0	34.8
Key Fraction No. 2 Distilling at 40 mm. Vacuum between 527-572° F.											
Cloud Point °F	85	85	80	85	75	—5	—5	.....	92	74	90
Base of Crude	I	I	I	I	I	N	N	N	I	I	I

I—Intermediate N—Naphthene (1) Below 5° F. (2) More than 400 seconds Saybolt Universal. *212° F.

Speed of Recovery Justified Gas Lift Is Concensus of Engineers

Staff Special
TULSA, Feb. 4

WHETHER or not the gas lift increased the total recovery per acre, it justified itself by the increased speed at which the oil was recovered and the investment returned. This was the concensus of the speakers at the first meeting of the year of the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers here Feb. 2. "Economics of the Gas Lift" and election of 1928 officers constituted the program.

E. L. DeGolyer, president of the institute, and of the Amerada Petroleum Corp., attended the meeting and made a brief address on economic problems of other industries. John M. Lovejoy, vice-president of the Amerada, and national chairman of the petroleum division, presided in the absence of A. W. Ambrose.

For chairman of the Mid-Continent section C. V. Millikan was elected. He succeeds A. W. Ambrose, of the Empire Companies, Bartlesville. Vice chairmen chosen were C. E. Beecher, of the Empire Companies; L. G. E. Bignell, Parkersburg Rig & Reel Co., Tulsa; C. W. Tomlinson, Schermerhorn-Ardmore Co., Ardmore, Okla.

J. R. McWilliams, of the Skelly Oil Co. was elected secretary-treasurer. The new executive committee consists of K. C. Sclater, Marland Oil Co., Ponca City; M. M. Valerius, geologist and producer, Tulsa; Frank A. Herald, geologist, Tulsa and H. F. Wright, Savoy Oil Co., Tulsa.

The program committee consists of C. V. Millikan, the new chairman; R. R. Brandenthaler, of the U. S. Bureau of Mines, Bartlesville and Lawrence E. Smith, NATIONAL PETROLEUM NEWS, Tulsa.

In discussing the economics of the lift it was shown that a difference in accounting methods caused a wide divergence in the lifting costs of the various companies. Different rates of depreciation and different types of properties resulted in costs ranging from 4 cents a barrel to nearly 30 cents a barrel for much the same type of production. It was brought out that as engineers the discussion was to be limited to considering the air-gas lift as an economical means of lifting oil, and not the economic features of over-production and the like which might result from the use of this method.

The future of the lift was believed to lie in the consolidation of plants for the air-gas lift, gasoline, boosting and re-pressuring into one unit for operating purposes. Doubt was

C. V. MILLIKAN

shown as to whether the lift would be an economic success on small shallow production, it being felt that as far as the lift is concerned, the deeper the better. From the standpoint of conservation several addresses brought out the fact, that, with increasing attention being paid to prolonging the natural flowing life of deep wells, together with a consequent reduction in the oil-gas ratio in oil produced the principals of true conservation and economy are well served.

AS TO the cost, while the actual figures for the various companies varied directly as their accounting methods, some figures on the lift in Seminole, where between 75 and 78 per cent of the oil is being produced by means of the air-gas lift, were cited by Hollis P. Porter, Gypsy Oil Co., as being fairly representative of costs on this type of production. In the plants in his discussion the units total over 150. Each unit consists of a high speed 4-cylinder gas engine close belted to a tandem 2-stage compressor with a free air capacity of 250,000 cubic feet per day. There are an average of three units per well, the wells having a daily average production during 1927 of 142.57 barrels.

The cost per day to flow one well during the same time was $29.94 per day, or a lifting cost of 21 cents per barrel. This figure includes all installation charges, operating expense, labor, repairs, fuel gas at 25 cents per thousand cubic feet and, in addition, the amortization of the investment over a 3-year period. It does not include the cost of the leases, drilling expense or general overhead. It was felt that this was not excessive for oil produced from wells 4,200 feet deep.

OTHER speakers of the evening and their remarks, in brief, were: John M. Lovejoy, vice-president and general manager, Amerada Petroleum Corp.:

Seminole, with its unusually low ratio of gas to oil, was the ideal type of production to be operated by air-gas lift. Tonkawa is well adapted to the use of this method; Churchill, Kans., has not been a success; large wells in the Oxford, Kans., pool respond well to air-gas lift, while the small ones do not. In considering installation of equipment for this purpose in any field, differential between cost of producing methods must determine the value.

C. E. Beecher, Empire Companies:

Attention must be given to future service of equipment installed for air-gas lift, as much of it will be serviceable after its original use has become uneconomic. General belief is that air-gas lift has not increased the final yield materially. In some cases an increase in the gravity of the oil has resulted when wells are transferred from the air-gas lift to the pumping method.

R. R. Brandenthaler, U. S. Bureau of Mines:

More should be learned about the natural flow of wells. Bureau of Mines is now conducting experiments along this line at the Bartlesville station.

James O. Lewis, Dunn & Lewis:

Attention should be paid to making for flexibility of use of equipment. Compressor equipment should be so installed that the air-gas lift, gasoline plant and repressuring phases of operating will be as one unit. The method should be placed in its proper relationship with other producing methods; it should not be regarded as the panacea for all producing ills.

Other speakers were E. H. Griswold, Marland Oil Co.; A. F. Hinton, Indian Territory Illuminating Oil Co.; Alf G. Heggem, Oil Well Improvements Co.

LOS ANGELES, Feb. 7.—Charles D. Wagner, vice-president in charge of sales, Emsco Derrick & Equipment Co., left California late in January for a tour of the oil fields of the United States. He will go also to New York. He expects to return about March 1.

Royalty Owners Fail to Consider Depletion Allowance

By H. E. Rorschach
Valuation Engineer, Tulsa

WITHIN the last two or three years the royalty phase of the oil business has grown quite rapidly. Only a few years ago less than a dozen royalty companies were operating from Tulsa, now there are more than 50 active Tulsa corporations engaged in this branch of the oil business. The development of the Seminole District has served to direct the attention of the investing public to this particular branch of the oil industry. A few years ago an oil and gas royalty was almost unknown outside of the oil fields, now they are eagerly sought by investors everywhere. Numerous New York and Eastern corporations and investors have established offices in Tulsa for the sole purpose of acquiring oil and gas royalties.

Glassmire has defined the royalty as a "share of the product or profits derived by the owner for permitting another to develop his property." The only expense incident to the ownership of a producing oil and gas royalty is the payment of a gross production tax or in some states the advalorem tax. The owner of the working interest, being by the nature of the business, the operator and the one who makes the expenditures for development, has numerous expenses and charges as an offset against gross oil and gas revenue. Frequently during periods of depression, when low crude prices obtain, the operator may receive seven-eighths of the oil and gas production, yet the royalty owner, who receives only one-eighth of the production, may receive more net income from the same property.

A great many of the royalty investors purchase producing oil and gas royalties almost exclusively. In numerous instances an estimation of the recoverable oil will indicate that the purchaser has paid from 50 cents to $1 or more for each barrel of recoverable oil; hence, a portion of the royalty owner's income is in effect a return of capital.

To understand the relation existing between taxation and the depletion of oil and gas properties, it must be recognized that these properties are capital assets having a genuine value. The proceeds from the sale of production then becomes, at least partially, in the nature of a return of capital, and is therefore not all taxable income. Depletion as commonly construed and as used in the Revenue Acts means the loss sustained through the removal of natural resources. Thus, when oil or gas is produced the supply of this natural resource is being exhausted and from the business viewpoint, the asset is being depleted.

The theory of depletion applies to all natural resources, such as coal, oil, other mineral and timber in their natural state. This diminution in value is to be clearly distinguished from depreciation. Depletion is the exhaustion of an asset or resource by production or consumption, whereas, depreciation is a gradual lessening in an asset value by its continued use, the action of the elements, or by reason of an advance in the art commercially.

The income tax law does not seek to collect tax upon the return of the capital of the tax payer. Some royalty owners have not considered the income from their royalty as being partly a return of their original investment, being satisfied to calculate their depletion allowance on the basis of 27½ per cent of gross income. This method has, no doubt, caused some of them to pay tax on a part of their capital which was being returned to them.

An example might be cited to illustrate the difference between the statutory depletion allowance and the depletion allowance based on cost. A certain Tulsa royalty company had an income of approximately $100,000.00 from the sale of oil and gas from sixty properties for the year 1926. On the statutory basis the corporation would have been entitled to a depletion allowance of approximately $27,500.00. However, an estimation of the recoverable oil for all of the properties by means of production decline curves and a study of the sand conditions, indicated that the depletion based on cost would approximate $60,000.00. This indicated a difference of $32,500.00 in allowable depletion between the statutory allowance of 27½ per cent and the allowance based on cost. By taking advantage of the allowance for depletion on cost, this royalty company had an additional deduction for depletion of $32,500.00. The tax on this difference at the rate of 13½ per cent totals approximately $4,387.50, to which they were clearly entitled, as this difference in depletion allowance was in part the return of their original investment, and on which the government does not seek to collect tax.

Wildcatters Allay Fears of Oil Shortage

(*Continued from Page* 41)

daily. The Mid-Continent well had sand at 2,584-93 feet. It is across the Canadian river from the original development. The riverbed locations call for engineering skill, as quite a problem is presented in putting in foundations for a rig. The Gilcrease Oil Co. is trying to find foundation in the sandy bed of the river for the diagonal offset southeast of the Mid-Continent well.

One of Okfuskee county's old wells came to life during the week and became one of the outstanding producers of Oklahoma. This was the Riverland Oil Co.'s No. 1 Barnett, SW SE SW of 19-11N-11E. Originally completed as a gas well, the Barnett was drilled to the Wilcox last November. In this sand, at 3,592-3,648 feet, it made 1,065 barrels initial. Last week it was given a 5-quart shot and started off with 2,727 barrels on Tuesday, 3,667 on Wednesday, 3,677 on Thursday and 3,546 on Friday. Oil is 43 gravity and there is no water although all other wells on the lease are producing some water.

The Seminole district was quiet, production declining slowly and no extensions being effected. A well of the Prairie Oil & Gas Co. in the Earlsboro pool seems to promise a southeastern extension. This company's No. 5 Davis, SE NW NW of 13-9-5, topped the Wilcox at 4,337 feet and was drilled to total depth of 4,347 feet. It was shot with 15 quarts and on Friday was making 250 barrels per hour. There is a dry hole a quarter mile southwest but none to the southeast or south anywhere near.

Away off southeast of production, Pattison & McDuff found a fair gas well in Pittsburgh county, southwest of Eufaula. Their test in the SW NW SE of 32-9N-16E got a 3 million foot flow in the Cromwell sand at 4,505-13 feet. The same well had 3 million feet at 1,325-90 and 2 million at 1,880-90, these flows being bradenheaded.

Just southeast of Muskogee Hale & Ford got a notable shallow well. Their No. 2 Clark, SE SW NW SE of 6-14N-19E found sand at 512-22 feet and at the end of the week was flowing at the rate of 15 barrels per hour. The oil is 43.5 gravity. Other shallow oil wells have been drilled in the area but none of this size.

Chester H. Westfall, president of Marland Oil Co. of Mexico, S. A., has been spending a few weeks in the Tampico district, where his company continues development of El Limon hacienda.

State Association Officers Object To Reservations in Ethics Code

CLEVELAND, Feb. 4

OFFICERS of many associations of marketers favor a code of ethics as a guide to better oil marketing practices, they have informed NATIONAL PETROLEUM NEWS following publication in its Jan. 18 issue of a tentative draft of the Virginia code which was drafted to submit to the Federal Trade Commission for approval. The only important alteration in the final draft submitted to the commission was the addition of a clause saying present contracts between refiners and jobbers, and their dealers were not to be affected by the code.

Objection is raised by several association officers to the final sentence of the Virginia code which some regard as a nullification clause which pulls the teeth from the rest of the document. This sentence is, "The companies participating in the conference (the conference that worked out the code) reserve to themselves the right to meet competition and to do so by employing the practices herein condemned, or otherwise."

"This can mean only one thing," wrote the secretary of one state association. "Those oil companies have been coerced into an agreement to do something which they believe impossible or impractical of accomplishment. It is an open admission that the things complained of are unethical and dishonest and should be abandoned; but that each of the companies covenanting will continue to practice all these things if, in their own personal judgment, it would serve their immediate ends. It is tantamount to saying, 'It is wrong to steal and the man who steals should be put in jail, but I affirm my right to steal and I think I am smart enough to get away with it.' It is a further admission that these Virginia companies do not trust each other.

"A code of ethics with such a string as that attached to it is a colossal joke. Certainly no body of men has yet reached the point where they should even consider a code of ethics if they find it necessary to leave the back door wide open so they individually may escape whenever they see an easy victim in the backyard whom they may attack with impunity.

"I REGRET very much that publicity has been given to this as I think it is very harmful to the industry as a whole. It may, however, have the effect of stirring up such a resentment on the part of oil men in other parts of the country that a real code of ethics without any such back door exits may be finally evolved."

Paul E. Hadlick, secretary of the Minnesota Petroleum Association, holds much the same opinion of the reservation and would also include in a code a clause condemning the Q. D. A. He wrote:

"The code itself applies in principle to this part of the country the same as in Virginia. If the code, however, were drawn up here I think that the first item under 'Retail Prices' unequivocally should forbid quantity discounts at service stations or quantity discounts on other than the amount delivered at one time.

"The rest of the code seems to be sound in principle with the exception of the specific reservation of the right of any participating company to meet competition. Competition seems to be the one big bogey man in the oil man's make-up. If competition cannot be found, it is created. A code of business practice should be entered into without mental reservations. Suppose everyone were to have his own mental reservations to the Ten Commandments. What kind of a Christian would you call him? You would call him but one thing and that is what he is—a hypocrite.

"I have never taken up with my members the matter of adopting a code. In my opinion the usefulness of such a code is doubtful unless the Standard Oil Co. of Indiana is a party to it, as the Standard Oil Co. of New Jersey was in the Virginia matter. There seems to be only one way that the Standard of Indiana could be brought around a conference table to discuss openly the Q. D. A. and its retinue of other bad practices, and that is by pressure being brought on the Federal Trade Commission to call a trade practice conference."

A. J. McCLELLAND, manager of the Oklahoma Oil Jobbers' Association, is another who would like to see something done to the Q. D. A. which, he wrote, "has brought considerable grief, for the reason that it has brought so many bad practices not only from the Independent distributors but from the commission agents of the major com-

Jim Gilmore Draws Code from the Bible

IF we turn to the dictionary we find "code" defined as follows, "a system of rules and regulations." We find "ethics" defined thus "the basic principles of right action." A code of ethics, therefore, is "a system of rules and regulations concerning the basic principles of right action."

There have been codes of ethics written for and adopted by every trade association in every line of business, I have no doubt. The best code of ethics that was ever written, beyond any question of a doubt, is the Golden Rule.

Do Unto Others As You Would Have Them Do Unto You.

It is short and directly to the point. It is in words that everyone can understand. There is no verbiage, no qualifying clauses. There is no opportunity to misconstrue: no loop holes that provide evasion by quibbling over technicalities.

One can write a code of ethics that covers a page or fills a book and it actually contains no more than the few simple words of the Golden Rule.

A code of ethics provides a pleasant subject for discussion and preparation but a most obstinate thing to abide by. A code of ethics implies a standard of morals. There can be no moral standard of any force and effect, or of any permanency, in the oil industry so long as the industry continues to attract to it a class of men that seek only quick and easy profits. Already the industry is heavily overburdened by that class—by men who have come into it with never a thought of building a permanent business from which to make an honest and honorable living and pass on to their posterity a heritage of which they might well be proud.

The greatest need of the oil industry today is more SALESMEN—more upstanding, two-fisted men who are not afraid to lose gallonage that makes no profit.

The oil industry needs a host of general managers and sales managers who have sturdy enough backbones to say to their order takers, "No, we don't want the business if there is no profit in it." Who can say without a flick of an eye-lid or a tremor in their voice, "we are building up our profit and loss showing and it simply cannot be done on gallonage that shows no profit."

When the time comes that refiners and jobbers of petroleum products make it a rule to let "the other fellow" have the unprofitable gallonage they will help more quickly to eliminate "the other fellow" and to bring about greatly improved conditions in the industry.

When that time comes (and let us hope it is not far off) there will be much less need for a code of ethics.

The petroleum industry will then be in the hands of those who are "Fit to Survive."

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panies, who were interested only in increasing the amount of their commission checks. If the Virginia code is approved by the Federal Trade Commission we would like to see it or a code similar to it adopted here."

Approval of the code of ethics idea is given by J. M. McLaughlin of the Wisconsin Independent Oil Jobbers' Association, and G. A. Primm, secretary-treasurer of the Illinois Petroleum Marketers' Association. Mr. Primm wrote: "If the code is approved by the Federal Trade Commission and the commission supports and co-operates in enforcing it, we believe it would be a wonderful thing for the oil industry as a whole. If such a movement as this will develop a workable peace plan for the industry there is no reason why a similar code should not have wider application. While the oil industry of this state has not given this subject any consideration perhaps the experience of the Virginia oil men will encourage more interest in such a movement and eventually similar action along the same lines."

MISSISSIPPI oil men are contemplating more drastic action against bad marketing practices. Instead of voluntary elimination by the oil industry itself, compulsory elimination through state legislation is being considered, wrote J. J. McEwen, secretary of the Mississippi Oil Men's Association.

The Independent Oil Men's Association of New England at its last monthly meeting unanimously condemned lending of equipment and instructed the secretary to notify the large companies that market in New England, its action. Fred E. Bergfors, Quincy Oil Co., Quincy Adams, Mass., said some Massachusetts oil men believe the case should be handled through some neutral organization and the Better Business Bureau of Massachusetts has been suggested as a suitable body to try to bring better trade practices in gasoline and motor oil distribution.

"Every known method, ethical and unethical, is being practiced in New England in the mad desire for gallonage," Mr. Bergfors said. "Never before have conditions been so bad. I believe all the companies are tired of it and would welcome any gesture toward improved marketing conditions."

The North Carolina Independent Oil Jobbers' Association has been watching the progress of the Virginia code. L. H. Martin, Greensboro, N. C., secretary of the North Carolina association, has attended three of the conferences about the Virginia Code and has had two conferences on the subject with the Federal Trade Commission in Washington. C. S. Wallace, Morehead City, N. C., new president of the association, is another who has been following the Virginia code's progress and has attended the Virginia association's meetings. Mark H. Senter, Chattanooga, Tenn., president of the Tennessee association; C. M. Southard, Lima, O., as a representative of the Ohio association, and Mr. Brown, Birmingham, Ala., secretary of the Alabama association, attended the meeting of the Virginia association several months ago in Norfolk, thus indicating the great interest in Virginia's proposed code.

There is nothing in the Virginia code that a square oil man could not subscribe to, in the opinion of James A. Gilmore, secretary and manager of the American Oil Men's Association, 624 S. Michigan Ave., Chicago.

"More power to 'em in Virginia," wrote Mr. Gilmore after reading Virginia's tentative code. "If they have provided a code of marketing ethics that the Federal Trade Commission will approve and help to make compulsory, they have accomplished something that has never been done so far as I am informed. Most of them are prepared, submitted for approval, written into the records, a few members sign them, and then they are sunk without trace."

Mr. Gilmore believes the Golden Rule is the best code of ethics ever written and if observed no other code would be necessary.

The Virginia code is "in circulation" in the Federal Trade Commission. This is a process of circulating it among the five commissioners, who read it carefully. It later will be taken up for action at one of the conferences the entire commission holds regularly three times a week. Commissioners E. A. McCulloch, who has been looking after the Virginia code, said action may be taken at any conference now.

COMMISSIONER McCULLOCH, when interviewed recently in Washington, said the question of how wide a territory the code would apply in had never been raised but Secretary Otis Johnson of the commission said he believed it would have universal application as to territory. However, there was a question as to who would be affected by it. In other industries codes have received unanimous approval from the members of the industry. Unanimous approval has not been given the Virginia code by Virginia marketers. One major company has even submitted a minority report to the commission on which it may act at the same time the code of the majority members of the code committee, now generally referred to as the "Virginia code," is acted on. The Standard Oil Co. of New Jersey was aligned with the majority group.

Should the commission approve a code, it will be resubmitted to the members of the Virginia committee for signing and possibly to other marketers in the state. After it has been signed it is to be returned to the commission and promulgated.

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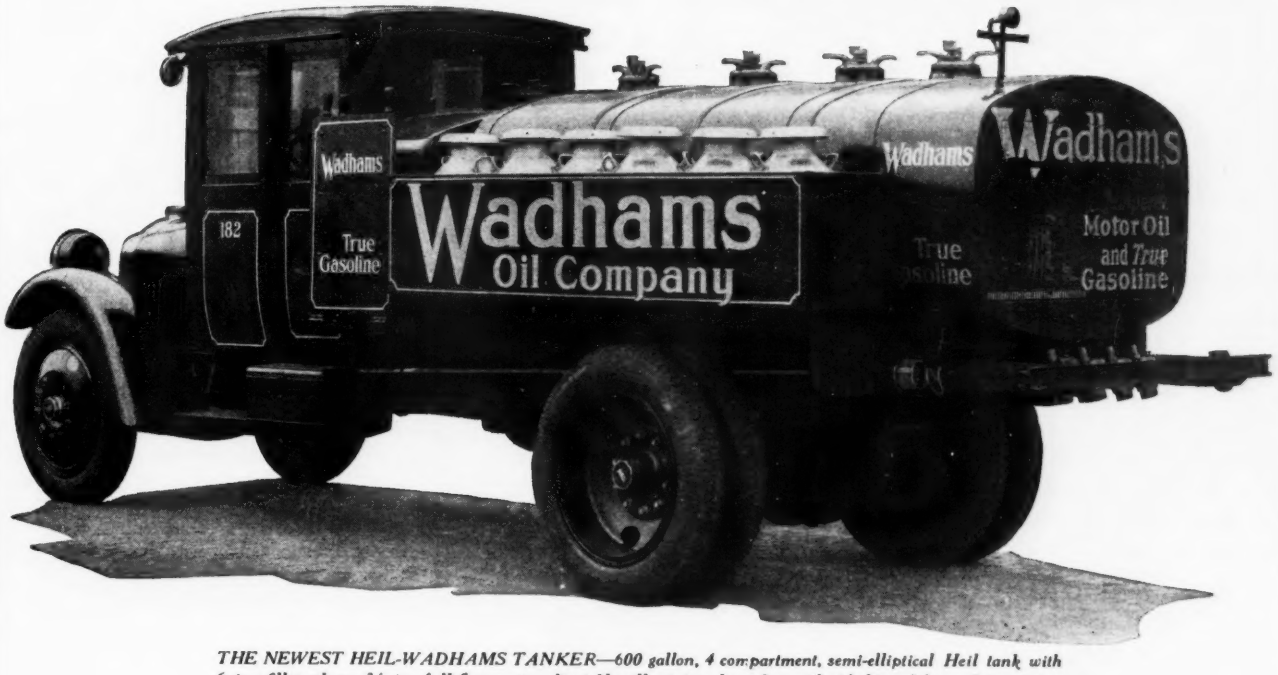

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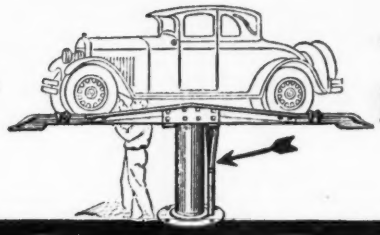

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There has been no intimation as to the action the commission may take. In other industries where codes have been unanimously indorsed by an industry approval has been given quickly. But the reservation at the end of the Virginia code may be a stumbling block in its case.

Dutcher Sand Wells On Air Lift

TULSA, Feb. 6.—The air-gas lift, by reason of its success in the Seminole area, has not had as much attention paid it in connection with its application to older producing areas as some recent trials would seem to merit. Two operators, the Barnsdall Oil Co. and the Phillips Petroleum Co. with production in the Dutcher sand at Bristow have applied the lift with gratifying results. Quite recently the Barnsdall company applied the air to its No. 2 Hattie Vaughn, in the SE NE SW SW of 33-16n 9e, a well which had not been making any oil due to the fact that it had been impossible to keep the water pumped off. While this well is still in the experimental stage it has been making about 20 barrels a day on air as against nothing on the pump.

The cost of installing the compressors and other equipment was about $6000, of which $1000 was cash outlay for labor and trucking from Seminole, where the equipment had been in use. The remainder was a paper charge, for this material had of course paid for itself in Seminole, but the charge of 60 per cent of the new value of the equipment installed was made against the well. It will be of interest to see if it can be made to pay out a second time, carrying an operating cost of about $20 a day.

Much the same experiment was begun by the Phillips Petroleum Co. about eight months ago in a well two locations south and one location east of the Barnsdall well. This well had been making less than 20 barrels of oil a day. Since the time the air lift was applied it has averaged 72 barrels a day, an increase of nearly 250 per cent.

All wells in this area have been cutting the oil to such an extent that treating plants are installed on most leases. The air lift has not increased the treating cost per barrel, so that the increased production is having a fair chance to prove that air lift may be used in many places where it had not previously been tried.

Amco Sales Corp., 1213 W. Washington Blvd., Chicago, has opened an office and warehouse at 4336 Broadway, Cleveland, O., of which Herman Seckel is manager. The company claims to be the largest exclusive handler of oil equipment in this country.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

Stepping Out Among Them

WHEN a fellow sits at a desk in Cleveland he doesn't get a real slant at what is going on. I heard complaints from here and there and the oil business looked to be in a pretty bad way. But it looks different now. I have been out for more than a week now. I am really "visiting around the refineries" from Oklahoma down to the Gulf. I can't visit them all but I am seeing many.

I visited Walter Miller's refinery, the Marland Refining Co.'s plant at Ponca City. I got a squint at the little skimming plant the Humble is building at San Antonio where I am writing this, I expect to visit some plants at Houston, Port Arthur and New Orleans before I go home.

I have talked to a lot of refinery executives, major and minor. I have come to this conclusion. The refining business is not nearly as bad off as it looks. There are plenty of problems to be solved, plenty of difficulties to be overcome. Some plants that are improperly located, unsoundly financed and poorly managed, may go by the board but the refining industry as a whole certainly is not going to go by the board. There is too much brains, enterprise, initiative and ingenuity at work.

It is quite likely some important changes are coming about in the lineup. I am going to write something about this as it looks to me, when I get home. I am getting a good deal of information on it as I go along.

When to Do the Thing Yourself

PROBABLY one of the measures of an executive is whether he used good judgment in selecting what to do himself and what to leave to others.

A man with a high position with a big oil company, having two refineries under his direction, told me the other day of a job he has just done himself, and done to his satisfaction.

Both refineries for which this man is responsible have cracking units of the same process. For several months the cracking plant at one of the refineries had been getting nearly 10 per cent greater yields of gasoline than the other. Both were operated on the same system, both operated on fuel oil. The crudes from which the charging stocks came were different, but it was figured that this should not make any such difference.

The executive asked his chemists and engineers why the difference. They studied, they observed, they tested. They could not find the answer nor could they increase the yield in the one plant to match the other. Then the executive went to work at it himself. He spent most of his time for several weeks on it. Having failed to get the answer from his technical men, this executive went to the men that actually operated the equipment in the plant that was making the high yields. Sometimes he stood watches with them at their stations, sometimes he had them in his office; he questioned them about every detail of the operation. He watched what they did.

They were not of much more help to him than the technical men in the way of giving him the answer. But between what the technologists and the operators told him, what he saw and what he has been able to think out, this executive is satisfied that he now has the answer and has gone back to put into practice in the backward refinery what he learned in the good one.

How to Figure Cracking Costs

A REFINER I talked with the other day expressed the opinion that any refiner who tries to figure by itself cost of operating his cracking plant, is fooling himself. The proper way to do it, this man thinks, is to figure it in connection with the skimming part of his plant. He says:

"If you charge to your skimming equipment the crude at the market price and credit to it at the market the gasoline and other products it produces you will find the cost of your gasoline has been pretty high. Then take your cracking equipment, charge to it the stock put through it and credit it with the gasoline produced and you will find your cracked gasoline costs you less than the straight run, generally considerably less.

"Therefore, a high yield is the most important thing to get out of your cracking process because by just so much as the quantity of cracked gasoline predominates in the total gasoline output of your plant, but just that much the average cost of making your gasoline is cut down."

This man favors the use of a cracking process that will operate on fuel oil, first because the charging stock is cheaper, and second, because the quantity of crude is greater than the quantity of gas oil, the quantity of cracked gasoline from fuel oil is more than the quantity made from gas oil and therefore the total cost of all the gasoline made at the plant is cut down.

The Unions in the Refining Industry

ATTEMPTS or at least threats are being made by the unions to bring some at least of the Mid-Continent refineries under union rules.

This I think would be one of the worst things that could happen. It would seem that now, when many refineries are running at less than capacity and the business is having a slack time, is a good time to go to the mat with the union issue by firing every man who shows signs of discontent or who joins or is about to join a union.

Much is made of the right of workers to organize but the right of employers to fire them is sometimes apparently lost sight of. Employers have that right.

If there is any way to keep unionism out of the refineries it would seem to be to build up an organization of as good men as you can get in the first place, and make it plain that the honest efforts of every man are appreciated and that extraordinary efficiency and loyalty in the individual man will be met with extraordinary reward.

Protecting a Business by Insurance;

Liability, Fidelity, Premise

By W. T. Holliday*

Article 1—***Written Exclusively for National Petroleum News***

IT IS rank treason for any of us lawyers to talk favorably about liability insurance. It takes the bread right out of our mouths! Business is getting too practical. Business men are getting so confoundedly practical that they come to us lawyers for advice beforehand instead of afterwards. The joke among the lawyers about the jolly testator who drew his own will is as old as history. But business men now not only refrain from making their own wills, they won't even make their own contracts. They try to keep out of litigation. And if in spite of every precaution, they do get into litigation, these business men have the most perverse way of being hard headed about the matter and insisting upon settling. How can lawyers get rich under a system like that? Of course, a litigant usually loses even if he wins! But how about the joys of litigation, the glories of litigation, the glories of the forensic arena? The layman's natural love of litigation has been the lawyer's meal ticket for centuries. And now this industrial age is trying to make us lawyers as practical as the business men.

Take this matter of liability insurance. It has taken the defense of personal injury cases right out of our hands and turned it over to insurance companies. The insurance companies settle most of these cases and what few cases are defended in court they turn over to practically a handful of specialist lawyers for trial. Almost half of the lawyers have been by-passed in the process. The ambulance chasers are doing splendidly, but the rest of us are almost eliminated from this ancient game.

There's one little tidbit still left for us lawyers, however. Business men have become converted to liability insurance, but many of them haven't become educated yet as to how to get full insurance protection. The insurance agent tries to tell them, but they think he is using high pressure salesmanship. They think, out of long habit of purchasing, they must beat him down. They can't do it on price, so they beat him down on amount and variety of coverage. The insurance agent seldom has been able to sell himself as a counselor. Also, the business man sometimes likes to shop around and get cheap insurance. All these factors help us lawyers!

THE accompanying article is the first of a series of two that Mr. Holliday has written exclusively for NATIONAL PETROLEUM NEWS *on how a business can be protected by insurance. The second article will appear in an early issue. All oil men, from dealers operating a single service station to large integrated companies, will find helpful and interesting points in this series.*

These articles are written by the case method, which is used in educational work, with facts and points driven home by citing examples.

This article discusses liability insurance and how much insurance is desirable, the liability of an employer with men driving their own or company cars on business, liability insurance on an independent contractor's truck, consignees, premises insurance, products insurance and fidelity insurance.

The second article deals with life insurance on executives of a company, and discusses some points to be noted in buying insurance.

Our attention was drawn to the matter of amount of coverage quite a number of years ago when a very wealthy gentleman had an automobile collision. He did not worry; he had a $5,000 policy. The case could have been settled for $5,000. The insurance company refused to settle; that was all it had at stake. The wealthy gentleman refused to contribute. Then he was sued for $100,000. The insured found he had far more at stake than his insurance company and had to engage his own lawyer. After several trials the insured, who thought he had bought protection, paid $50,000 on a judgment and a large fee to his lawyer.

A client had a $10,000-$20,000 policy on its trucks. One of its trucks ran into a street car and injured three people. Verdicts in the first two cases exhausted the $20,000 and we had the pleasure of defending the third suit and the client paid our fee and the third verdict!

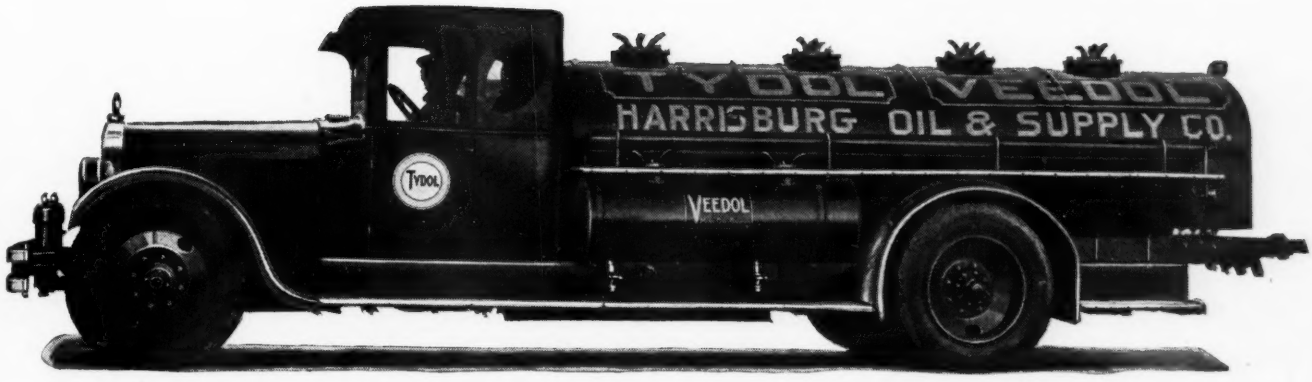
We cannot count the number of instances of that sort we have seen. Most people seem to think they are protected under a $5000-$10,000 limit policy. In the cities, however it does not take much of a personal injury to draw a verdict of $5,000. A verdict of $20,000 or more for a single injury is always a serious possibility. If a claim probably will bring a verdict for considerably more than the amount of the policy and cannot be settled for the amount of the policy a conscientious insurance company is in an embarrassing position and the assured may be in a distressing situation.

As a result of these observations we have said to our clients: "Selfishly, we wish you wouldn't carry any insurance. We wish you would never settle a case. We can make more money out of you trying cases for you than by settling them. We can't make any money whatever out of your cases if you carry adequate insurance. It is our duty, however, to advise you to make up your mind whether to insure or to carry your own risk. For heaven's sake don't try to do both. If you decide to insure, then really insure. Don't send a boy to the mill. Carry insurance adequate in amount and in scope."

We advised them as an absolute minimum to carry at least a $20,000-$40,000 policy on automobiles and a $25,000-$50,000 policy on trucks. The basic premium is on a $5,000-$10,000 policy and a $25,000-$50,000 policy costs only 36 per cent more. You

*Of the law firm of Holliday, Grossman & McAfee, Cleveland. Attorneys for the Standard Oil Co. (Ohio) and Massachusetts Bonding and Insurance Co.

International tanker on Budd Duals . . one of a fleet operated by the Harrisburg Oil & Supply Co., Harrisburg, Pa.



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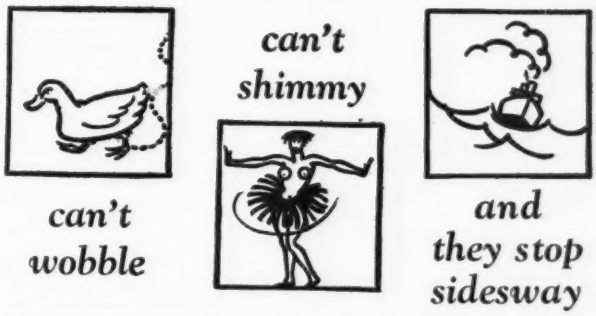

can't wobble — *can't shimmy* — *and they stop sidesway*

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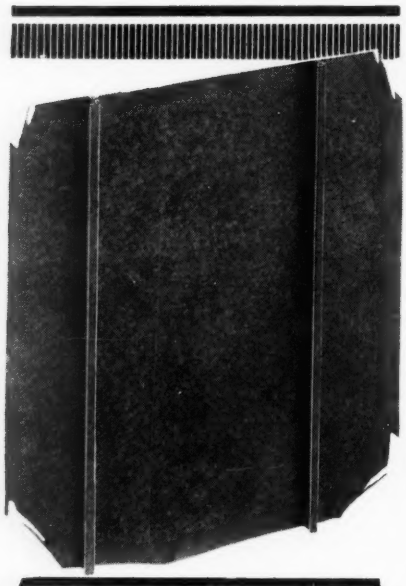

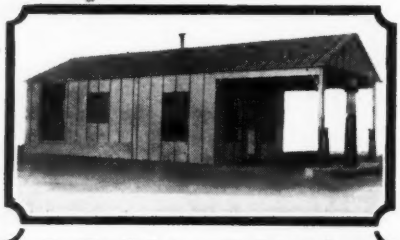

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don't begin to get your maximum money's worth until you get into the higher brackets.

We persuaded several companies to have an insurance survey made by a reliable agency. In no case was adequate coverage found. Several rather astounding situations were disclosed. In one instance we found a department store carrying a $10,000-$20,000 policy on 16 passenger elevators. They thought they had a large policy! The elevators had automatic safety devices! That was a good argument, perhaps for carrying no insurance, and indicated a low premium. But when the client was shown that the real risk was a calamity hazard as to which $20,000 was practically no protection, the insurance agent was called in haste and the policy increased to $50,000-$150,000.

In every instance clients said they had refused to follow the advice of the insurance agent. When their lawyer advised more insurance they followed his advice implicitly. People will believe a lawyer when they can see he is talking against his own interest!

What Kind of Insurance?

WE VENTURE the general statement that most business concerns insuring with insurance companies are inadequately protected both as to amount and scope of coverage. Liability insurance for his own automobiles and trucks occurs to almost every owner. Public liability insurance is taken as a matter of course by contractors, as is employers' liability insurance by most employers in places where there is no workman's compensation law. But how many concerns analyze their peculiar needs or permit an insurance survey? Not many, if a single lawyer's observation and his questioning of insurance men are any criterion.

A company having 5,000 salesmen scattered all over the country never thought about the matter of employer's liability or workman's compensation, nor about the fact that probably many of those salesmen had automobiles and might use them in their work. Then within one month a sales superintendent driving his *own* car and carrying a salesman to see a prospect had a collision in which the salesman was badly hurt, and three salesmen driving their *own* cars in the course of their employment injured pedestrians. The company woke up to the fact that it had no insurance against any of these claims. It had thought when it insured its own cars that its automobile risk was covered.

One day we drove out to a client's brick plant. About 20 cars were standing around the office. "Do those cars belong to employes?" we asked the president. He answered in the affirmative. We suggested that every once in a while an employe was sent on an errand, and probably went in his own car. The surmise proved correct. And the surmise that the company carried no contingent liability insurance also proved correct. Next day the president arranged with his employes for a joint policy on each car covering both the employe and the company, the premium being equitably apportioned.

MANY business men, if they think about it at all, assume as a matter of course that they are not liable for the acts of an independent contractor. If a contractor is employed to erect a building, the architect probably will see to it that contingent public liability insurance is carried. But if a man owning a truck is hired regularly for hauling, even if the employer's name is painted on the truck, the employer is apt to overlook taking contingent public liability insurance on that truck. Some of the cases in the deepest twilight zone of liability or no liability are those of injuries caused by trucks of independent contractors, and often the injuries are so great that the risk of litigation cannot be afforded.

How about the case of a representative handling one's goods on consignment? That is a unique relationship in the law. But the liability of the consignor for torts of the consignee will turn upon the degree of control retained or exercised. It is another case often in the twilight zone.

There is a variety of liability insurance covering factories and their environs. Refineries not large enough to carry their own insurance would do well to consider them all. Public liability insurance for the premises also might well be considered by companies operating service stations. Accidents there are not frequent, but when they happen they are sometimes very serious. The limits of such a policy probably ought not to be less than $25,000-$50,000 in any urban community. Of course, accidents at service stations are always the customers' fault! But it is a question for the jury. We have seen cases of this kind where a verdict in a large city would easily have run as high as $30,000.

Manufacturers of food stuffs are familiar with products insurance. If someone sues them for poisoned food effects the insurance company defends them. This type of insurance is available for all kinds of products. Sometimes an inadvertent mixture or substitution of products may carry serious consequences. This type of insurance should sometimes be considered from the point of view of calamity hazard.

Recently a trusted employe with an exemplary record was discovered to have embezzled $50,000. The employer, who could not afford the loss,

had carried no fidelity insurance and had had no independent audits. Today the president of the concern blames himself for having put temptation in the man's way by failing to take those precautions. The Standard Oil companies carry their own insurance on all other risks, but carry fidelity insurance on all employes for the sake of the moral effect. There are numerous types of insurance against financial hazard, such as burglary, hold-up, check-alteration, etc. But fidelity insurance calls for consideration entirely independently of the financial hazard involved.

Display Goods Outside, Price Plainly, in Selling Side-Lines

From Calpet Mission

Published by California Petroleum Co.

PEOPLE will buy any staple article if it is convenient for them to visit the place of business where that article is displayed and sold.

Because of this fact cigar stores are no longer cigar stores. Men go into cigar stores several times a week. Other things besides cigars and tobacco are displayed and men buy them. Convenience and timely appeal turn the trick.

Similarly, drug stores are no longer merely drug stores. They are now miniature department stores. They handle everything from poker-chips to wardrobe trunks. Their gross sales dwarf those of the old-time apothecary shop because some wide-awake manager saw the advantage of stocking many attractive side-lines, and of placing them where people calling for drugs and prescriptions could see them.

Today conditions existing at service stations very closely parallel those which existed at cigar stores and drug stores 20 years ago. That is, large numbers of people visit them for the purpose of buying only a limited variety of commodities. Should this condition be taken advantage of through the display of items now purchased elsewhere at less convenience by these same people, a development very similar to those enjoyed by drug stores and cigar stores can easily result.

The people who drive up to service stations are the most prosperous members of the community. The nature of the service they demand requires that they wait anywhere from five to ten minutes while it is being performed. During this period they can do nothing else but wait. This, in view of their purchasing power, of their needs, and of their enforced leisure for the moment, they are ideal prospects, right then, for a great number of accessories—if those articles are well displayed and a purchase made easy for them.

The great question is, Mr. Service Man, how can you cash in on the opportunity these people represent? How can you develop this valuable market and gain richer profits? Well, here is one simple practical plan:

First: Select a complete stock of the quicker-selling, bigger-margined accessories—all bought in small quanties, but kept up to needed requirements by daily stock checking.

Second: Display this stock in cases that can be set outdoors where their contents will catch the motorist's eye.

Third: Place large, plainly printed price tags on each article. This feature is important because, though the motorist may not make an immediate purchase, he will thus have all the information necessary to make up his mind to buy before some future visit.

Fourth: Demonstrate a satisfactory method of selling each article to your assistants.

Of course, this plan will not revolutionize your business; but it should add a neat little sum to the profit side of your ledger sum easily nursed to ever-growing proportions.

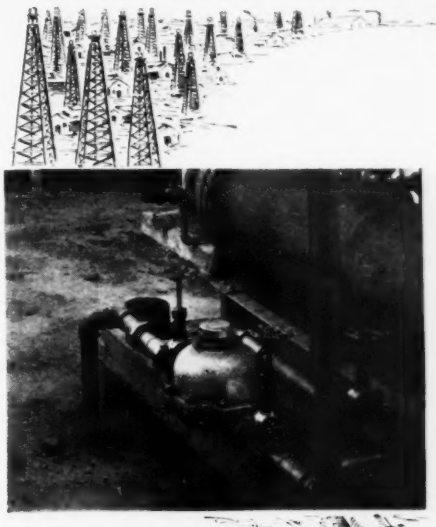
Mich-I-Penn Is 2 Years Old

DETROIT, Feb. 6.—The Mich-I-Penn Oil & Grease Co. will celebrate its second birthday Feb. 15. From a beginning in a warehouse of 2,500 square feet the company has expanded, and on May 1, 1927, moved into its new plant and offices at 2685 E. Atwater St. with storage capacity of approximately 100,000 gallons. The company compounds and blends Texas, Mid-Continent and Pennsylvania oils. It has about 4,000 customers on the books.

CORRECTION

On Page 43 Feb. 1st issue of NATIONAL PETROLEUM NEWS the statement was made that the Danciger Oil & Refining Co., had sold their holdings near Pampa, Texas, to the Bell Oil & Gas Co. The Danciger company points out that this was incorrect, and that only a limited quantity of crude oil was sold to the Bell Oil & Gas Co.

NIAGARA METER TRAVELS



No. 4
Seminole, Okla.

THIS week's travel takes us to one of the Carter Oil Company's plants located in Seminole, Oklahoma. This company like hundreds of others, has realized the *real* value of Niagara Oil Meters. The photograph above shows one of these meters which is used for measuring crude oil to a portable Braun Still.

Check Unnecessary Losses!

No matter what branch of the petroleum industry you may be in, Niagara Oil Meters will play a big part in checking unnecessary handling losses by giving you *accurate* and *dependable* measurements on gasoline, kerosene, alcohol, lubricating oils, crude oils or fuel oils. And they will provide you with a perpetual inventory . . . an accurate record of every gallon that passes through the pipes. Surely you cannot afford to overlook such a vital factor in safe-guarding the profits of your business?

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Investigate the real economies of Niagara Oil Meters today. The coupon will bring you full information. Mail it before you forget!

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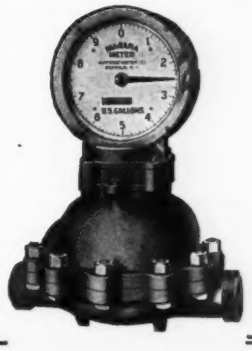

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Importance of S.A.E. Viscosity Numbers In Specifying Motor Oils

By E. W. Upham*

THE accompanying article is the paper presented by Mr. Upham at the annual meeting of the Standards Committee of the Society of Automotive Engineers at Detroit, Jan. 24.

IN ORDER to show why the lubricating oil viscosity numbers should be adopted, one must first go back and find out why lubricants needed to be standardized. To tell the story correctly, the whole history of lubricating oils would have to be given. The development of the present numbering-system is the result of considerable labor on the part of the Lubricants Division of the Standards Committee and was only accomplished by the co-operation of the technical men in the oil industry. Then there is the application of the system, and what it will accomplish.

The most important property of an oil in determining suitability for use is the viscosity or "body". The real lubricating value of an oil is dependent on its viscosity at the temperature at which it is used. Viscosity is a factor in cold-weather starting. It is also a factor in oil consumption.

This has long been recognized and viscosity was made the basis for the grading of lubricants by the refiners and the oil distributors. The terms "light", "medium" and "heavy" to name the grades were naturally chosen. As the demand for more grades grew, names for higher and for intermediate ranges were added, such as "extra heavy", "special heavy", "super-extra heavy"; and "extra medium", "medium heavy" and "special medium". The result was confusing. One company's "extra heavy" would be of higher body than their "special heavy", while this order would be reversed with another. Some adopted the letters of the alphabet as an index to their grades, either at the beginning or at the end of the alphabet; others used numbers.

While there was a general relationship between the grades of lubricant of the different companies, that is a medium oil of one company had about the same body as another company's medium, this was not always so. Company "X": markets an oil labeled heavy, company "Y" markets an oil of a heavier body and labels it medium. A number of like cases could be given.

This situation is not pictured in order to criticise the oil companies or the general oil-marketing industry. It was a development of years and a development of companies acting individually and in competition; and there were, no doubt, good reasons at the time for the adoption of the particular nomenclature used by any one company. The general picture is given only to show the need of standardization.

The standardization has been effected by the lubricant engineers working together with the automotive engineers in the S. A. E. Committees and in the A. S. T. M. Committees. The first standards adopted by the Society in 1923 were based on government lubricating-oil specifications and were never widely used. This whole subject has been admirably covered in an article by H. C. Mougey which appeared in the April, 1926, issue of The Journal.

The present lubricating oil viscosity numbers are the result of the combined effort of the D-2 committee of the A. S. T. M. and the Lubricants Division of this society. They were issued as Recommended Practice in 1926.

In the work of the Lubricants Division the question of standardizing the grading of light, medium, heavy, special heavy, etc., naturally came up. That would be fine if it could be accomplished, but such grading is hopelessly tied up with trade names. The oil companies have adhered to this practice for years and it is too much to ask for a change. In fact they simply won't change.

One point to be emphasized is that this numbering system represents a change from the original idea of the

*Chrysler Corp. Chairman, 1927, Society of Automotive Engineers, Lubricants Division.

Chief Chemist Mougey Comments on S.A.E. Viscosity Numbers

DEAR SIR: I am inclosing copy of a paper prepared by Mr. Upham for presentation before the S. A. E. at the annual meeting here in Detroit Jan. 24. I believe that this discussion by Mr. Upham shows you the importance of the S. A. E. viscosity numbers. I am enclosing a table from the S. A. E. handbook showing the viscosity numbers.

For the lighter oils, the temperature at which the viscosity is determined was chosen as 130 in order to decrease as much as possible the differences due to the viscosity-temperature characteristics from different geographical sources. If two oils from different geographical sources were selected so that they had the same viscosity at 210, there would be an appreciable difference in their viscosities if they were compared at a much lower temperature such as 100 degrees Fahr. On the other hand, if they were selected so they had the same viscosity at 100, there would again be an appreciable difference if they were compared at 210. By selecting a temperature intermediate between these two points such as 130 dgrees Fahr and having both oils at the same viscosity at 130 Fahr., the differences in viscosity at other temperatures both higher and lower are decreased.

For the heavy oils which are heavy in order to have a high viscosity at high temperatures, the temperature at which the oils were compared is 210.

It will be noted that the specifications provide minimum and maximum limits for each S. A. E. viscosity number. The minimum for the higher viscosity numbers is higher than the maximum for the next lower viscosity number. This appears to make a gap which would exclude certain oils whose viscosity falls between two viscosity numbers. However, there is a footnote to the specifications which provides that oils whose viscosity come between the ranges specified and thus appear to be excluded, are classified in the next lower viscosity numbers. This provision makes it possible to classify absolutely all oils under the S. A. E. system, regardless of the peculiarities of the oil or the geographical source of the crude from which they are derived.

Signed—H. C. MOUGEY, Chief Chemist, Research Laboratories General Motors Corp.

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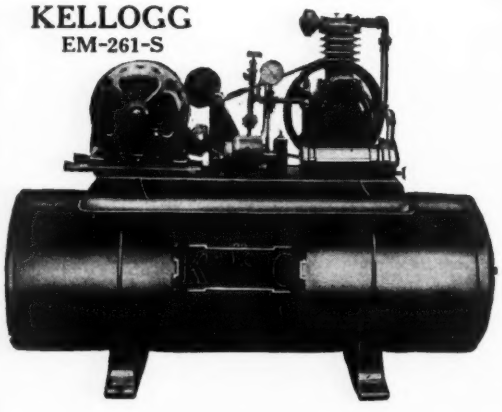

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8 cubic ft. of air.
1½ horsepower motor.
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Standard, in that, instead of "purchasing-agent" specifications, they are a standardized grading based on viscosity only. In other words, instead of being an aid in the purchase of lubricants by the automobile manufacturers, they are essentially an effective means for recommending lubricants by the car manufacturers to the dealer and car owner.

Speaking from the experience of our own company, besides the problem of how best to handle the recommendations in the Instruction Books, there was correspondence with dealers and individual owners covering a wide range of questions on oils in general. We do not invite or encourage dealers to submit samples. Nevertheless, the samples would arrive and some action on them was required. The usual determinations of physical constants were made and reply given as to the grade we would advise using on the basis of viscosity and pour test, stating that the choice based on the quality or degree of refinement of the lubricant was up to the dealer himself to decide.

AT A recent meeting of the Division a survey was made of the Instruction Books of several automobile companies. In general, the methods used could be classified under three heads.

1. Listing the trade names and grades of the lubricants considered suitable.
2. Listing one trade-name and grade and recommending that one or an equivalent.
3. Describing in general terms the lubricant desired. For example, "a medium, well-refined oil."

The first method involves endless labor on the part of the testing laboratory and tends to be unduly discriminating due to inability to cover all lubricants sold. The objections to the second method are obvious. In certain cases some oil companies have considered these two methods to be so discriminating that they have declared a boycott on the automobile companies to cause them to change their recommendations.

The disadvantage of the third method is that a general description of a lubricant cannot be made sufficiently definite; and that, if an attempt were made to make it definite, it would be technical and the average car-owner would not understand it.

Automobile manufacturers admittedly build cars that will operate successfully with average lubricants that are on the market. However, they realize that the use of well-refined lubricants of proper viscosity mean greater satisfaction to the owner, better oil-mileage and reduced carbon-deposits.

Automobile manufacturers generally believe in trade-name lubricant-buying by the car owner, as it tends toward the use of the higher-grade lubricants.

There is always the filling-station operator who cannot resist the easy profits of buying low-grade oils and selling at the standard prices. Manufacturers of trade-name products take pride in them and I believe honestly attempt to establish a good standard and adhere to it in quality and uniformity. Their lubrication charts, while primarily for the purpose of helping sales, nevertheless were usually based on recommendation from the car manufacturers, when obtainable, and the purchasing of oil of correct body.

The car owner who is content with buying a "quart of oil" hasn't our full sympathy, but nevertheless, as a driver owner, he has our interest. Such an individual may not read the instruction book. Then stamping the viscosity number in the oil filler-cap would help considerably.

Seasonal or temperature recommendations can be covered better by the use of the S. A. E. Viscosity-Numbers. The wording in our instruction books is as follows:

"For correct engine lubrication, a high-grade, well-refined oil is essential. As a guide to the proper viscosity or body of oil for summer and winter conditions, which vary for different territories, the lubrication charts of the reputable oil companies should be consulted. In general, an oil having the body of S. A. E. Viscosity Number 30 is recommended for summer use and for winter use, except where zero or below-zero temperatures are encountered. For the latter condition, an oil of low cold-test and a body of S. A. E. Viscosity-Number 20 or 30 is recommended."

RECOMMENDATIONS in our instruction books on the basis of the lubricating-oil viscosity-numbers have been too recent to judge accurately of the results. Our service department, however, is well pleased; and I have yet to hear of any opposition.

The use of the S. A. E. viscosity numbers by the lubricant distributors should not interfere with their present trade-name grading. They supplement the trade-name grading and enable the car owner to buy oils of the viscosity or body the car manufacturer recommends, and of the particular brand or trade which he himself is convinced he wants.

Adoption of the S. A. E. viscosity numbers by the automobile manufacturers and by the oil-distributing companies is progressing very satisfactorily.

One of the largest producers of automobiles besides our own company has used the numbers in their latest instruction-books. Assurances have been given by several others that they will use them in the next issue of their books.

Several oil companies are stamping their containers with the numbers and have issued lubrication charts incorporating them, together with their own lettered-grading. I don't believe I am violating a confidence in stating that one of the largest, if not the largest oil-distributing company, has made definite plans to adopt the numbers. Several others are contemplating their use and have given assurance of their approval.

What is needed is more publicity. Retail oil-station operators must be instructed so that when Mr. Tom Jones wants a quart of S. A. E. 30 oil, he can get it as readily as if he asked for a quart of heavy; and, in addition, by this system he should be able to obtain oil of the desired viscosity. If he believes that a certain company's trade-marked oil is superior, he should be able to obtain the desired viscosity of this particular brand.

FOLLOWING is a brief summary of the accompanying article by Mr. Upham on the S. A. E. viscosity numbers:

1. The automobile manufacturer believes in the use of high-grade well-refined lubricants, but of a definite body or viscosity range.
2. He believes in the car owner using trade-name oils but does not want to recommend by trade name.
3. Recommending by the present system of grading of light, medium and heavy is ineffective due to looseness of meaning and lack of standardization.
4. The S. A. E. viscosity numbers provide a definitely standardized terminology for the grading of lubricants on the basis of viscosity, by which the automobile manufacturer can tell the dealer and the car owner the body of oil he recommends to be used.
5. Placing of the S. A. E. numbers on the containers and their addition to the lubrication charts issued by the oil companies is a logical development and is essential to the purchase by the car owner of the viscosity of lubricant recommended by the automobile manufacturers.

CRANKCASE LUBRICATING OIL VISCOSITY NUMBERS

S. A. E. Recommended Practice

Viscosity Number	Viscosity Range* Saybolt Universal Seconds At 130 degrees Fahr.	At 210 degrees Fahr.
10	90-115	.....
20	120-150	.....
30	185-220	.....
40	255	70
5	.....	75-95
60	.....	105-120

*Oils with viscosities falling between the ranges specified shall be classified in the next lower grades.

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DETROIT: 5459 Grand River Avenue
ST. LOUIS: 1621 Pine Street
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MINNEAPOLIS: 900 Sixth Ave., S. E.
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LOS ANGELES: 1625 South Hill Street
SEATTLE: 67 Columbia St.
OMAHA: 13th & Willis Sts.
TORONTO, CAN.: Dunlop Tire & Rubber Goods Company, Limited
LONDON, ENG.: J. Bazley-White, 3 Love Lane, Eastcheap, E. C. 3

METAL HOSE & TUBING CO. INCORPORATED 236 Tillary Street BROOKLYN, N.Y.

Teapot Dome Not a Reserve and Cannot Be Made One, Watts Tells Court

"SO FAR as experimenting with the property by some shut-down method, I can only say that I know of no organization within the industry which has either training or experience on how not to produce oil—such organization must be found other than in the oil industry."

The above statement is included in the special report made by Albert E. Watts, vice-president of the Sinclair Consolidated Oil Corp., who served as co-receiver for Teapot Dome naval reserve during the long period of litigation which ended when the supreme court decision restored the property to the government. Mr. Watts made the report to the federal district court of Wyoming, under whose direction the receivers worked and which court entered the final decree of restoration. He said he wanted to present his report "more expressly that a record be completed as to my conclusions as to the drainage taking place as affecting Naval Reserve No. 3."

It will be remembered that one of the reasons advanced by Former Secretary Fall for leasing the reserve was that drainage of the reserve was occurring through wells on the Salt Creek side of the structure. The government combatted this theory. The present status of Teapot Dome is that it is entirely shut-in.

"The subject provoking the chief, and I may say, the only real difficulty arising between the co-receivers (a naval officer being the other) developed over the matter of the methods to be employed by the receivers to preserve the receivers' estate from drainage from wells drilled outside of Naval Reserve No. 3, such wells having been drilled on lands under government supervision and over such lands there existed no jurisdiction by your court insofar as the litigation involving the receivership was concerned," wrote Mr. Watts.

"While the matter of drainage was thought to be one of the points argued by the litigants with increasing zeal, no theory, no argument, can substitute with permanence, fiction for fact, and it is, therefore, my opinion, based on many months of contact with Naval Reserve No. 3 and from some 25 years of observation and experience in the oil industry, that Naval Reserve No. 3 is now being drained by wells located off the reserve, and has been drained prior to the establishment of the lands as a reserve, and furthermore, it was seriously being drained at the time of the leasing of the reserve.

"The high sounding and rosy representations of government experts, as to the petroleum content of Naval Reserve No. 3, made at the time of its being leased, have all failed to materialize, although some 84 holes have been drilled to test out the promising formations and prove the representations of the government bureaus made for the purpose of compelling an unusually burdensome task for the lessee. Believing that the fiction of a law suit should not be the yardstick to govern the aims and activities of the receivers entrusted with the administration of the properties within the receivers estate, I have from time to time brought to the attention of the court, conditions existing on the reserve, which, in my judgment, definitely evidenced drainage from the reserve and a consequent impairment of the receivers' estate.

"HOWEVER, the fiction of the litigation that there was no drainage, prevailed throughout the receivership. It is a notorious fact that although government bureaus represented to the lessee that there was some 50 million barrels of oil contained in the First Wall Creek sand within the reserve, not one barrel of oil from this sand has ever been produced, although dozens of wells have been drilled in and through this sand. Evidence and showings that oil was once present have been secured, but to date the only oil being produced, or ever produced, from the First Wall Creek sand was, and is, in the Salt Creek field, lying directly north and contiguous to Naval Reserve No. 3. This reduction in estimated volume tells its own story more portent and eloquent than can be measured by human language endeavoring to sustain a usable fiction.

"When the receivers took charge of the property making up the receivers' estate, by direction of your court, there was being produced daily, crude oil in the amount of approximately 3,700 barrels from all sands then developed. Under the program followed by the receivers, this daily production has decreased to about 600 barrels per day at the closing of the receivership. According to naval experts this amount of production is barely enough, even though it was suitable for the purpose, to fuel a battleship during one afternoon when such battleship was being engaged in active maneuvers."

Mr. Watts then relates that under the receivership five wells in the Second Wall Creek sand have been plugged because their production was too small to pay operating expenses and that of four wells drilled into the Third Wall Creek sand, three have been abandoned for the same reason. The Lakota sand, which is productive in the Salt Creek field, has not been tested in Teapot. He quoted the letter written to the receivers by J. W. Steele, U. S. Geological Survey supervisor in charge of the Rocky Mountain division urging that drilling be done to protect the reserve from water encroachment, from drainage and from the moving of oil into upper portions of sand where gas was being exhausted. Mr. Steel defined "conservation" as the obtaining of the maximum amount of oil possible. No action, says Mr. Watts, was taken on this suggestion. "A fictional reserve," he says, "apparently had either a greater value or a more usable value than a protected reserve, regardless of how disappointing it had proven to be."

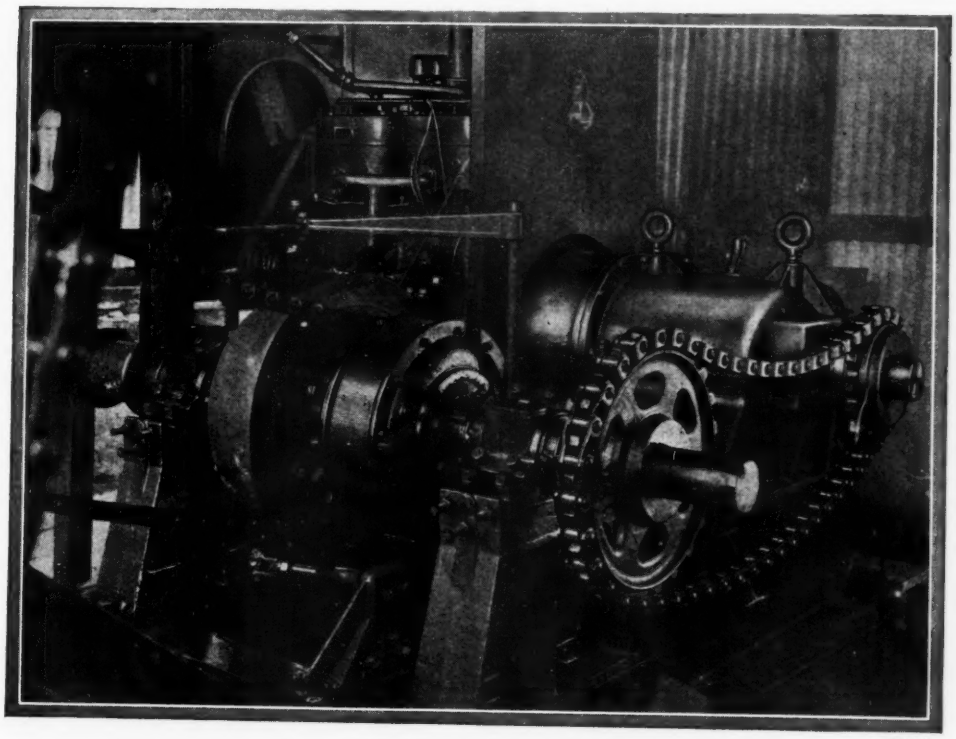
In spite of the attitude of the navy department on drainage—the government's contention that there was none—Mr. Watts points out that on Oct. 13, not more than 72 hours after the supreme court had handed down its opinion, the navy wrote to Max W. Ball and put out a feeler on the subject of compensating royalty. Mr. Ball is president of the Argo Oil Co., operating properties on the Salt Creek side of the structure and immediately offsetting Teapot Dome. Mr. Ball's reply is quoted in Mr. Watts' letter. It said, in part:

"I had thought that the supreme court in its recent decision negatived the idea of there being any drainage, and that the navy department had announced that the oil in the naval reserves would be retained intact in the ground against the day of need.

"NOW since the supreme court has said there is no drainage, and since the navy department has declared that no oil will be allowed to escape from the reserves, how can we be producing any naval reserve oil and why, therefore, should we consider paying royalties?

"More seriously, what reason could we give our stockholders for paying royalty on oil taken out through our own wells, in view of the well-established rule of law that oil is a fugutive mineral and the property of the man who extracts it, rather than of the man under whose land it lays? I am not sure that this rule is wholly just, and I should like to see it modi-

Waukesha Direct-Connected Herringbone Reduction Gear



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Now in Production

After months of strenuous testing in the field, the Waukesha Motor Company presents through its Oil Field Representatives a rugged, accessible, quiet, Herringbone Reduction Gear Unit direct connected to their heavy-duty Oil Field Power Units. As shown above, it is connected to a 2500-foot type Portable Rotary Rig operating in Louisiana.

Waukesha "Ricardo Head" Oil Field Power Units may be obtained in various powers from 40 to 125 H.P. They meet all requirements found in drilling with either cable or rotary tools. They are used to drive oil, water and mud pumps and air compressors for "Gas Lift" installations. To better adapt these engines to the needs of drilling contractors this new Herringbone Reduction Gear has been designed and tried out thoroughly in the field. Complete information regarding this unit may be obtained by writing for Bulletin 656.

P-809-L

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rotary Rig Co.	C. A. Watts

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

fied in certain particulars, but it is nevertheless the established rule and I fail at the moment to think of any reason we could give for disregarding it."

Said Mr. Watts: "While it is now a matter of common knowledge that a joint resolution approved Feb. 8, 1924, announced the policy that the Congress had determined to keep under ground the oil within the naval petroleum reserves, still it is difficult for the average lay mind to understand how such a resolution could affect or disturb a contract made two years prior thereto, or evidence legislative intent of a congress which no longer existed. Having for many years been actively connected with the petroleum business in old Mexico, and having witnessed the many disagreements and diplomatic notes passing between the governments, it is comforting to those having investments in Mexico that its higher courts have, by most recent decree, refused to permit its congress by its interpretation of the legislative intent, to disturb oil contracts made prior to the passage of its petroleum law.

"Drainage will continue, it is no respector of academic desire or hopeful ambition.

"As I write this final report, I am reminded that in a few minutes the old year closes and a new one starts. As per arrangement, operations on Teapot Dome stopped at midnight.

"OUTSIDE the snow is falling and the wind blows its flakes in careless regard for the comfort of any one. Still, the snow is not so deep, nor the storm so severe as when the young man from the Survey first came to gaze with curious eyes upon her contour. Next time he may stay longer than a half hour with this political orphan." (Reference here is to the brief stay of a government geologist who was sent to Teapot prior to the leasing of the reserve.) "Beyond that imaginary line marking her northern boundary bright lights of Salt Creek continue, and the many power plants, pumps and paraphenalia continue in action in the operation of its 2,000 wells, voices in the night give orders, work continues, another year of activity dawns, but not for Teapot Dome.

"All is dark, no voice is heard, silence is her sole companion. There was a time when she could communicate with her sister fields, but now that source of communication has been made impossible. Called 'infected' by counsel for her own people, she gazes far towards the east but static destroys her hope for response. Her listening ear turned towards California brings only the vacant promise for a spotless future.

"The family budget carries no provision for her—prohibited but not provided for. All that which she now has was left by the 'trespasser' whom her gossiped uncle drove away during a period of excitement. Still, the 'trespasser' cleared the title to the property before he left and an excited family still grudgingly keep such evidences of title. Perhaps this may snugly fit in with uncle's economy program.

"She may have known the cold acknowledgment of a Puritanical nod, but now all is changed, she sits alone awaiting the approaching hand of the experimenter. It has been determined that she be made something she never was, and considered as custodian of a reserve that does not exist. What price fiction? What price politics? What price fair play?"

Stoody Company Has Airplane For Oil Field Deliveries

Lincoln-Page Airplane purchased by the Stoody Co. for service to the oil fields in California

LOS ANGELES, Feb. 4.—A Lincoln-Page airplane recently was placed in service by the Stoody Co., Whittier, Calif., to make quick deliveries of the company's products in any oil field in the state. Although no trip has yet been made out of the state, the company announced that trips would be made to points in Texas or Oklahoma, if it became necessary.

Robert Cochran, a licensed transport pilot who has to his credit more than 3000 hours in the air, has been retained to man the new aeroplane. During the World war, Mr. Cochran was instructor at several flying fields.

The plane is a three seater, carrying two passengers or the equivalent weight in freight. The plane at this time is equipped with a Curtiss OX5 motor, but it is planned to replace later this engine with a new Curtiss XX6s.

The company has a branch at Oakland and at Bakersfield. The trip to Bakersfield can be made in about an hour and ten minutes, but the Oakland trip takes double this time.

The company's products calling for quick deliveries are Stoodite and Borium. Early last week an order was received from the Amazon Drilling Co. for a pound and a half of Borium to be delivered at Ventura. This one and a half pound cargo had a selling value of about $600.

The company is now constructing a hangar and landing field adjoining the plant at Whittier.

Answers Price Difference Query

ANN ARBOR, Mich., Feb. 4.—J. Fred Staebler, of the Staebler Oil Co., answered a query as to why gasoline was 2 cents higher here than in Detroit in a question-and-answer department of an Ann Arbor newspaper. He said that where the gasoline was of the same quality the Detroit dealers were taking a loss in selling at the reduced price. "There are two alternatives open to every oil company, either of cutting quality or price. We believe that the small saving that might be affected by reducing quality would be more than offset by inferior performance," Mr. Staebler said.

LOS ANGELES, Feb. 4.—A. C. McLaughlin, vice-president of the Associated Oil Co., has been selected by the Chamber of Mines and Oil of California, to represent that organization on the public relations committee of the American Petroleum Institute, for this year.

Gasoline Stocks Cut 6,700,000 Bbls.; First Draft in Any Year Since 1918

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, Feb. 6 PRELIMINARY petroleum statistics of the Bureau of Mines for 1927 reveal a draft of 6,700,000 barrels on stocks of gasoline during the year and a new record production of crude oil, 894,435,000 barrels. The country also piled up 67,106,000 more barrels of crude oil during the year, making stocks of crude Dec. 31 total 463,501,000 barrels. This was the first time since 1918 that gasoline stocks have been reduced in any year.

Aboveground stocks of crude and refined oils Dec. 31 amounted to 584,184,000 barrels, which, at the 1927 rate of demand, was equivalent to 226.1 days' supply. The 520,097,000 barrels of oil in storage Dec. 31, 1926, represented only 208.3 days' supply at the 1926 rate of demand.

Stocks of all refined oils last year fell 3,298,000 barrels to 119,949,000 barrels.

Other points concerning the 1927 supply and demand for crude and refined oils are:

Imports of crude oil decreased more than 2,000,000 barrels, about 3.3 per cent.

Imports of refined oils decreased approximately 35 per cent, or more than 7,000,000 barrels.

Production of natural gasoline was stepped up more than 6,000,000 barrels to 38,751,000 barrels.

About 2,563,000 barrels of benzol was used in blending motor fuels.

Exports of crude oil increased only 436,000 barrels.

Exports of refined products increased 9,609,000 barrels, or 8.3 per cent.

Stocks of all oils were increased 64,087,000 barrels over the year.

Average new supply of oil was 2,760,000 barrels a day.

Average foreign and domestic demand was 2,584,000 barrels a day.

Daily average excess of supply for the year was 176,000 barrels. In 1926 average demand exceeded average new supply by 68,000 barrels a day and stocks were lowered 24,764,000 barrels that year.

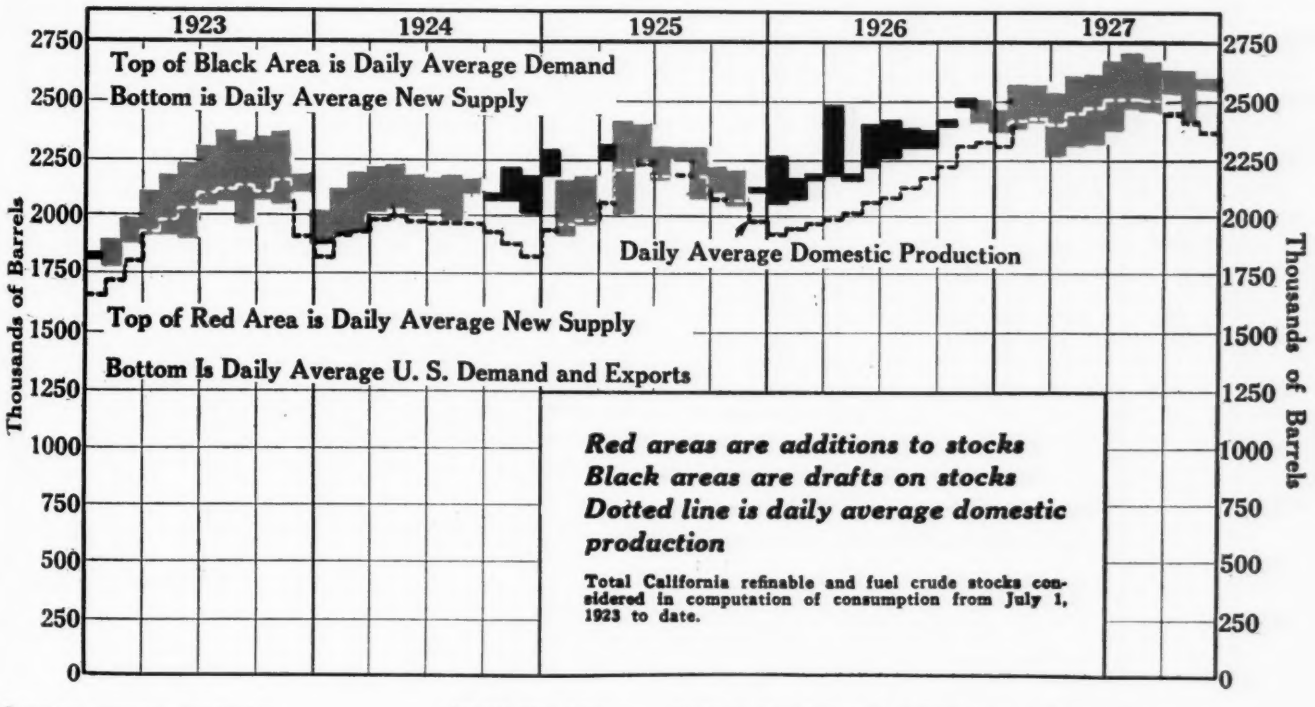
The Bureau report shows the following facts about the supply and demand of crude and products in December:

Stocks of all oils rose 1,535,000 barrels.

Increase in stocks of crude oil, 870,000 barrels, was smallest since January, 1927.

Stocks of oils Dec. 31 represented 217.4 days' supply at December rate of demand, Nov. 30 stocks constituted 222.2 days' supply at the No-

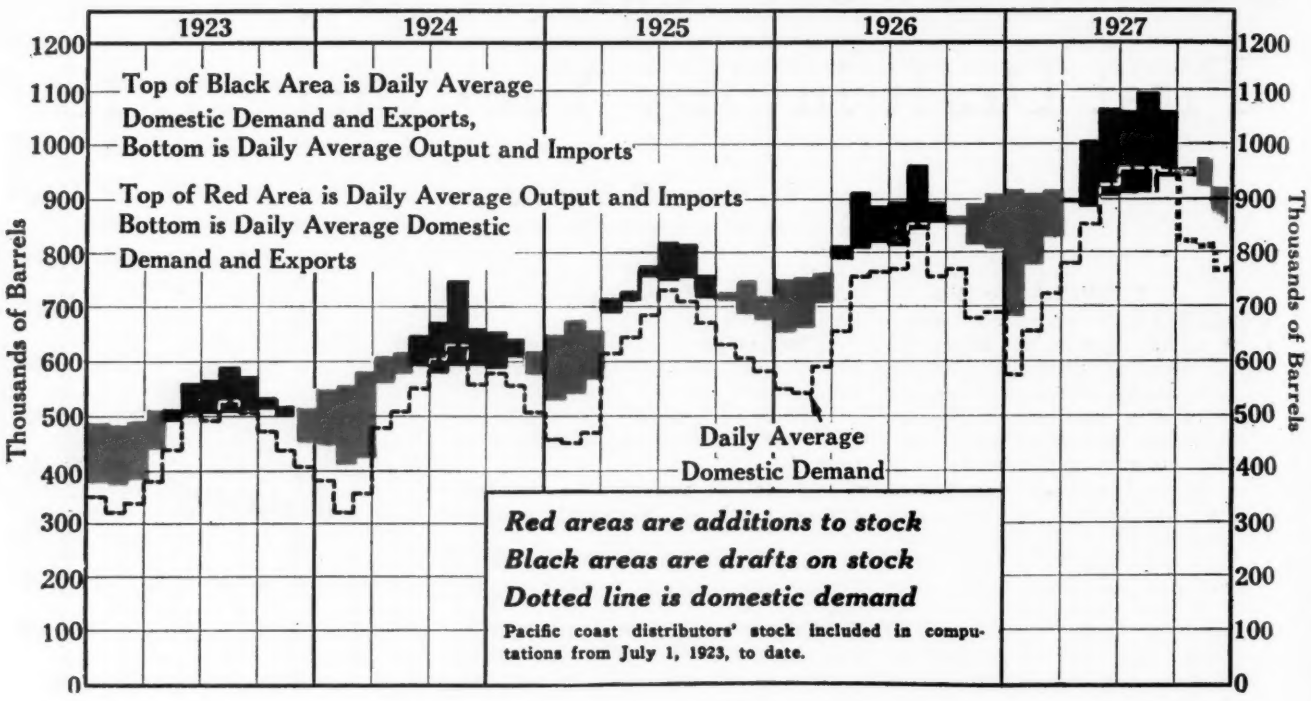
Crude Oil Production and Demand



December domestic production	2,390,600	Bbls. daily av.
December imports	200,300	Bbls. Daily av.
Total new supply	2,590,900	Bbls. daily av.
December indicated demand east of California	1,832,300	Bbls. daily av.
December indicated California deliveries	675,100	Bbls. daily av.
December exports	55,400	Bbls. daily av.
Total indicated demand in December	2,562,800	Bbls. daily av.

Stocks in pipe lines, and at tank farms east of California, Dec. 31, 1927	312,322,000	Bbls.
Stocks at refineries east of California	39,235,000	Bbls.
Stocks of foreign crude not at refineries	89,000	Bbls.
California stocks 20° A. P. I. and lighter	20,058,000	Bbls.
California stocks heavier than 20°	91,797,000	Bbls.
Total stocks Dec. 31, 1927	463,501,000	Bbls.
Increase in stocks in December	870,000	Bbls.
Stocks Dec. 31, 1926	396,395,000	Bbls.

Gasoline Production and Consumption



December domestic output	920,000 Bbls. daily av.	December exports	102,000 Bbls. daily av.
December imports	9,000 Bbls. daily av.	Total indicated demand	867,000 Bbls. daily av.
Total new supply	929,000 Bbls. daily av.	Stocks Dec. 31, 1927	32,323,000 Bbls.
December domestic shipments	765,000 Bbls. daily av.	Increase in stocks in December	1,922,000 Bbls.
		Stocks Dec. 31, 1926	30,023,000 Bbls.

vember rate of demand. Stocks of Dec. 31, 1926, represented 205 days' supply at rate of demand current then.

Excess of new supply of all oils over demand was 49,000 barrels in December, compared with 174,000 barrels in November and 115,000 in December, 1926.

Crude production averaged 2,390,000 barrels a day, a decline of 68,700 barrels from the November average.

Gasoline production was curtailed when demand declined with the advance of winter and stocks rose only 1,922,000 barrels.

Small reduction made in kerosene stocks because of larger domestic demand.

Lube stocks rise when output increases and demand falls.

Unusual wax demand in this country brings 4,000,000-pound fall in stocks of this product.

Only three states increased crude oil production in December. They are Louisiana with a gain of 1,000 barrels in the daily average; Wyoming with 5,500 barrels average gain and Texas with 20,800 barrels average gain. Of the Texas increase 700 barrels was in the Gulf Coast area and the remainder inland where west Texas pools have been coming to the fore.

Oklahoma production was down 70,000 barrels daily average and of this volume 23,000 was in the Seminole district, which averaged 398,000 barrels net daily in December. Net production in the Panhandle district of Texas was constant at 84,000 barrels daily. Long Beach, Cal., was up 8,000 barrels daily average to 110,000 barrels daily. Seal Beach, Cal., was down 7,000 barrels daily average to 43,000 barrels.

Texas production averaged 626,000 barrels daily and California 610,900. This is the first time Texas production has been ahead of California since 1902, when the Spindletop development was at its height. Oklahoma's production was 719,600 barrels daily, making California the third state in production in December.

Crude production in 1927 totaled 894,435,000 barrels, a gain of 123,561,000 barrels over the 1926 production of 770,874,000 production, or 16 per cent. Only the Lima-Indiana, southwest Indiana-Illinois and Rocky Mountain regions failed last year to surpass their 1926 production. Gains were as follows, amounts in barrels:

Appalachian	1,886,000	6.6 Pct
Michigan	341,000	362.7 Pct
Mid-Continent	119,476,000	28.2 Pct
Gulf Coast	4,404,000	9.7 Pct
California	6,079,000	2.6 Pct

Here Are the Figures on 1927 Petroleum Supply and Demand—Barrels

	1927	1926
Domestic crude production: Light	784,149,000	633,726,000
Heavy	110,286,000	137,148,000
Imports of crude oil	58,156,000	60,382,000
Imports of refined oil	13,352,000	20,938,000
Natural gasoline	38,751,000	32,305,000
Benzol	2,563,000	2,112,000
Total new supply of all oils	1,007,257,000	886,611,000
Total stocks end of preceding year	520,097,000	544,861,000
Total supply of all oils	1,527,354,000	1,431,472,000
Exports of crude oil	15,843,000	15,407,000
Exports of refined oil	125,696,000	116,087,000
Domestic demand, crude and refined	801,631,000	779,881,000
Total demand	943,170,000	911,375,000

*Deficiency.

	1927	1926
Total stocks end of year	584,184,000	520,097,000
Day's supply	226.1	208.3
Change in stocks	+ 64,087,000	— 24,764,000
Daily average new supply	2,760,000	2,429,000
Daily average demand	2,584,000	2,497,000
Daily average excess of supply	176,000	* 68,000
Crude stocks:		
East of California: Light	303,639,000	225,404,000
Heavy	48,007,000	52,860,000
In California: Light	20,058,000	30,861,000
Heavy	91,797,000	87,270,000
Total stocks of crude	463,501,000	396,395,000
Total stocks of refined	119,949,000	123,247,000
Stocks of natural gasoline	734,000	455,000

The Rocky Mountain fields' production fell 7,761,000 barrels or 20.4 per cent.

Refiners increased their stocks of crude 408,000 barrels in December to 39,235,000 barrels Dec. 31. Refiners held only 35,565,000 barrels of crude Dec. 31, 1926, and 29,200,000 barrels Dec. 31, 1925.

Pipe line and tank farm stocks east of California totaled 463,501,000 barrels Dec. 31, compared with 396,395,000 barrels the year before. The largest gain, of course, was in the Mid-Continent where stocks rose 79,350,000 barrels during the year to 221,558,000 barrels. In California light crude stocks receded 1,133,000 barrels and heavy oil stocks 758,000 barrels. Dec. 31, 1927, stocks of refinable crude in California were 10,803,000 barrels, or 35 per cent less than stocks Dec. 31, 1926. Stocks of heavy fuel grade crude rose 4,527,000 barrels in 1927 in California. For the whole country stocks of refinable crude rose 78,235,000 barrels or 34.7 per cent in 1927 and stocks of fuel grade crude fell 9.1 per cent.

During 1927, 14,680 producing oil wells were completed, compared with 19,013 wells in 1926.

Gasoline production averaged about 30,000 barrels or 3.38 per cent less in December than in November. Every district produced less gasoline on the average with the exception of the Appalachian and there the increase was only 197 barrels daily average, or 0.56 per cent. The largest decline in output was in Texas where curtailment averaged more than 17,000 barrels a day or 8.43 per cent.

Shipments of gasoline fell 65,826 barrels daily average, or 5.94 per cent, less gasoline being moved from each refining district except in Cal-

Crude Production—Barrels

(Daily Averages)

States	Dec. 1927	Nov. 1927	Dec. 1926
Arkansas	90,600	97,400	136,200
California	610,900	617,200	654,100
Colorado	7,000	7,300	7,700
Illinois	17,100	18,700	20,400
Indiana	2,400	2,400	2,200
Kansas	105,300	108,700	116,400
Kentucky	17,900	19,600	16,600
Louisiana Inland	45,500	46,300	51,800
Gulf Coast	10,000	8,200	9,800
Michigan	1,100	1,100	800
Montana	11,100	12,000	12,000
New Mexico	2,600	2,600	5,400
New York	6,100	6,200	5,900
Ohio	18,200	19,700	20,000
Oklahoma	719,600	789,600	570,700
Pennsylvania	25,200	26,700	24,400
Tennessee	100	200	100
Texas Inland	506,800	486,700	437,300
Gulf Coast	119,200	118,500	160,000
West Virginia	15,100	15,900	16,800
Wyoming	58,800	54,300	56,000
Total U. S.	2,390,600	2,459,300	2,324,600

Crude Oil Stocks—By Months

(Thousands of Barrels)

1926	East of Calif.	†In Calif.	Total U. S.
January	291,400	130,841	422,241
February	287,975	131,638	419,613
March	287,710	131,678	419,388
April	286,208	124,290	410,498
May	284,009	125,359	409,368
June	281,432	122,794	404,533
July	278,184	121,344	399,528
August	277,486	119,893	397,379
September	277,771	117,964	395,735
October	277,014	117,928	394,942
November	277,099	117,497	394,596
December	278,077	118,131	396,208
1927			
January	278,972	118,988	397,673
February	285,458	117,410	402,868
March	290,110	117,454	407,564
April	297,895	117,843	415,738
May	307,016	117,432	424,448
June	315,702	117,414	433,116
July	324,930	116,996	441,926
August	333,673	115,227	448,900
September	339,741	114,981	454,722
October	345,357	113,467	458,824
November	348,885	113,746	462,631
December	351,646	111,855	463,501

Stocks of Crude Oil

Domestic Unless Otherwise Specified. Amounts in Thousands of Barrels.

AT REFINERIES

Districts	Dec. 1927	Nov. 1927	Dec. 1926
East Coast			
Domestic	8,690	8,045	7,240
Foreign	2,686	2,726	2,186
Appalachian	1,871	1,822	1,673
Indiana, Illinois, etc.	2,777	2,692	2,224
Oklahoma, Kansas, etc.	4,871	4,924	2,926
Texas: Inland	1,432	1,656	952
Texas: Gulf Coast			
Domestic	7,686	7,653	8,194
Foreign	219	204	236
Ark. and Inland La.	408	457	601
Louisiana Gulf Coast			
Domestic	6,149	6,104	7,019
Foreign	1,046	1,150	802
Rocky Mountain	1,400	1,394	1,422
U. S. east of Calif.	39,235	38,827	35,475
AT TANK FARMS, IN PIPE LINES AND ELSEWHERE THAN REFINERIES			
Appalachian	6,285	6,501	6,570
Kentucky	1,041	1,090	1,220
Lima-Indiana	1,134	1,109	666
Ill., S. W. Indiana	12,170	12,189	11,770
Okla., Kans., Tex., except coastal	221,558	218,378	142,208
N. La.-Ark.	25,373	25,577	31,640
Gulf Coast	17,526	17,619	20,031
Rocky Mountain	27,235	27,256	28,075
East of Calif. pipe line tank farm stocks	312,322	309,719	242,180
Foreign crude			
Atlantic ports	52	106	165
Gulf ports	37	233	444
Total refinery, pipe line and tank farm stocks east of Calif.	351,646	348,885	278,264
California:			
20° and lighter	20,058	21,191	30,861
Heavier than 20°	91,797	92,555	87,270
GRAND TOTAL	463,501	462,631	396,395
CLASSIFICATION BY GRAVITY			
(Elsewhere than refineries east of California)			
24° lighter	303,639	300,475	225,404
Heavier than 24°	48,007	48,41[illegible]	52,860

Crude Oil Production by Fields—Barrels

Fields	December Daily Avg. 1927	November Daily Avg. 1927	December Daily Avg. 1926	Total Jan.-Dec. 1927	Total Jan.-Dec. 1926
Appalachian	78,700	84,200	79,100	30,458,000	28,572,000
Lima-Indiana	4,200	4,400	5,000	1,833,000	2,030,000
Michigan	1,100	1,100	800	435,000	94,000
Illinois, S. W. Indiana	19,200	20,800	22,300	7,751,000	8,418,000
Mid-Continent	1,467,800	1,528,700	1,312,400	543,343,000	423,867,000
Gulf Coast	129,200	126,700	169,000	49,679,000	45,275,000
Rocky Mountain	79,500	76,200	81,100	30,184,000	37,945,000
California	610,900	617,200	654,100	230,752,000	224,673,000
U. S. Total	2,390,600	2,459,300	2,324,600	894,435,000	770,874,000

Gasoline Situation by Districts — Barrels

Districts	December Daily Avg. Output	November Daily Avg. Output	December Change %	December Da. Avg. Shipments	November Da. Avg. Shipments	December Change %	Stocks December 1927	Stocks November 1927	Stocks December 1926	Districts
East Coast	137,451	139,967	— 1.80	131,419	137,600	— 4.49	4,748,000	4,561,000	7,385,000	East Coast
Appalachian	36,032	35,833	+ 0.56	291,161	36,667	—20.47	1,035,000	822,000	846,000	Appalachian
Ind., Ill., etc.	134,451	135,033	— 0.43	118,871	134,167	—11.40	3,734,000	3,251,000	4,357,000	Ind., Ill., etc.
Okla., Kans., etc.	148,064	152,500	— 2.91	133,388	146,133	— 8.72	2,983,000	2,528,000	3,096,000	Okla., Kans., etc.
Texas	190,258	207,767	— 8.43	181,742	187,233	— 2.93	4,889,000	4,625,000	5,002,000	Texas
La. and Ark.	63,968	66,467	— 3.76	61,806	66,767	— 7.43	1,491,000	1,424,000	3,259,000	La. and Ark.
Rocky Mount.	38,452	40,300	— 4.59	28,548	42,700	—33.14	1,643,000	1,336,000	4,137,000	Rocky Mount.
California	171,065	174,067	— 1.72	172,806	172,300	+ 0.29	11,800,000	11,854,000	10,941,000	California
U. S. Total	919,741	951,933	— 3.38	857,741	923,567	— 5.94	32,323,000	30,401,000	39,023,000	U. S. Total
Texas Gulf Coast	149,290	163,900	— 8.91	140,516	145,000	— 3.09	4,197,000	3,925,000	4,569,000	Texas Gulf Coast
La. Gulf Coast	50,322	53,300	— 5.59	47,709	52,200	— 9.41	1,413,000	1,332,000	3,196,000	La. Gulf Coast

Kerosene Situation by Districts — Barrels

Districts	December Daily Avg. Output	November Daily Avg. Output	December Change %	December Da. Avg. Shipments	November Da. Avg. Shipments	December Change %	Stocks December 1927	Stocks November 1927	Stocks December 1926	Districts
East Coast	27,742	31,233	—11.18	32,774	25,967	+26.21	1,401,000	1,557,000	1,664,000	East Coast
Appalachian	9,516	9,700	— 1.93	9,000	9,633	— 6.57	316,000	300,000	245,000	Appalachian
Ind., Ill., etc.	16,387	15,133	+ 8.29	14,064	12,633	+11.32	1,004,000	932,000	778,000	Ind., Ill., etc.
Okla., Kans., etc.	25,032	25,800	— 2.98	22,934	23,033	— 0.43	605,000	540,000	677,000	Okla., Kans., etc.
Texas	41,516	41,100	+ 1.01	47,936	39,100	+22.60	1,322,000	1,521,000	2,066,000	Texas
La. and Ark.	18,322	17,367	+ 5.50	16,806	16,400	+ 2.48	937,000	890,000	1,129,000	La. and Ark.
Rocky Mount.	4,936	5,933	—16.80	2,226	2,967	—24.97	350,000	266,000	383,000	Rocky Mount.
California	13,613	14,533	— 6.33	16,871	13,867	+21.66	1,734,000	1,835,000	1,633,000	California
U. S. Total	157,064	160,800	— 2.32	162,611	143,600	+13.24	7,669,000	7,841,000	8,575,000	U. S. Total
Texas Gulf Coast	34,193	33,500	+ 2.06	39,968	30,933	+29.21	1,236,000	1,415,000	1,467,000	Texas Gulf Coast
La. Gulf Coast	16,290	15,367	+ 6.01	14,839	14,767	+ 0.49	911,000	866,000	1,116,000	La. Gulf Coast

ifornia where a gain of 506 barrels daily average or 0.29 per cent was made.

California refiners reduced stocks of gasoline 54,000 barrels in December, the only district to lower its inventory. Compared with stocks Dec. 31, 1926, stocks at the end of 1927 were lower in every district except California and there the increase was only 859,000 barrels.

In the whole country refiners' stocks Dec. 31, 1927, were 6,700,000 barrels less than a year before. This was a decrease of 17.1 per cent.

Domestic production of gasoline in 1927 was 330,667,000 barrels and imports 5,003,000 barrels, a total new supply of 335,670,000 barrels. Domestic production in 1926 was 299,734,000 barrels and imports 5,540,000 barrels, a total of 305,274,000 barrels. The gain in 1927 was 30,396,000 barrels or 9.9 per cent.

Domestic shipments in 1927 totaled 297,928,000 barrels and exports 44,442,000 barrels, a total demand of 342,370,000 barrels. Domestic shipments in 1926 were 261,813,000 barrels and exports 43,313,000 barrels, a total demand of 305,126,000 barrels. The gain in 1927 was 37,244,000 barrels, or 12.1 per cent.

Petroleum Supply and Demand — Barrels

	Dec, 1927	Nov. 1927	Oct. 1927	Dec. 1926
Domestic crude production: Light	65,784,000	65,378,000	68,037,000	60,220,000
Heavy	8,324,000	8,400,000	9,044,000	12,405,000
Imports of crude oil	6,209,000	5,339,000	4,633,000	4,987,000
Imports of refined oil	755,000	1,159,000	1,041,000	1,318,000
Natural gasoline	3,512,000	3,410,000	3,419,000	3,100,000
Benzol	212,000	205,000	217,000	176,000
Total new supply all oils	84,796,000	83,891,000	86,391,000	82,206,000
Total stocks end of preceding month	582,649,000	577,427,000	573,379,000	516,543,000
Total supply of all oils	667,445,000	661,318,000	659,770,000	598,749,000
Exports of crude oil	1,717,000	1,280,000	1,539,000	1,283,000
Exports of refined oil	9,863,000	10,641,000	11,458,000	10,235,000
Domestic demand, crude and refined	71,681,000	66,748,000	69,346,000	67,134,000
Total demand	83,261,000	78,669,000	82,343,000	78,652,000
Total stocks of all oils end of month	584,184,000	582,649,000	577,427,000	520,097,000
Days' supply	217.4	222.2	217.4	205.0
Increase in stocks	1,535,000	5,222,000	4,048,000	3,554,000
Daily average new supply	2,735,000	2,796,000	2,787,000	2,652,000
Daily average demand	2,686,000	2,622,000	2,656,000	2,537,000
Daily average excess of supply	49,000	174,000	131,000	115,000
Crude stocks:				
East of California: Light	303,639,000	300,475,000	297,263,000	225,404,000
Heavy	48,007,000	48,410,000	48,094,000	52,860,000
In California: Light	20,058,000	21,191,000	21,609,000	30,861,000
Heavy	91,797,000	92,555,000	91,858,000	87,270,000
Total stocks of crude	463,501,000	462,631,000	458,824,000	396,395,000
Total stocks of refined	119,949,000	119,198,000	117,822,000	123,247,000
Stocks of natural gasoline	734,000	820,000	781,000	455,000

Gasoline Supply and Demand—Barrels

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1926	23,208,000	384,000	3,361,000	17,582,000	41,524,000
February	21,259,000	408,000	3,245,000	15,814,000	44,132,000
March	23,868,000	517,000	3,094,000	19,302,000	46,121,000
April	24,296,000	454,000	4,256,000	20,848,000	45,767,000
May	25,271,000	621,000	4,530,000	24,213,000	42,916,000
June	24,946,000	464,000	3,744,000	23,803,000	40,779,000
July	25,504,000	460,000	3,702,000	24,752,000	38,289,000
August	25,942,000	674,000	3,572,000	26,912,000	34,421,000
September	25,360,000	258,000	3,853,000	22,929,000	33,257,000
October	26,337,000	874,000	2,783,000	23,973,000	33,712,000
November	26,245,000	486,000	3,920,000	20,618,000	35,905,000
December	27,498,000	452,000	3,413,000	21,419,000	39,023,000
1926 Total	299,734,000	*5,540,000	*43,313,000	*261,813,000	.....
January, 1927	27,960,000	520,000	3,557,000	17,888,000	46,058,000
February	25,024,000	416,000	3,544,000	18,240,000	49,714,000
March	27,886,000	493,000	3,219,000	22,646,000	52,410,000
April	26,577,000	377,000	3,614,000	23,371,000	52,379,000
May	26,787,000	490,000	4,468,000	26,579,000	48,609,000
June	26,616,000	590,000	4,248,000	27,799,000	43,768,000
July	28,118,000	190,000	3,223,000	29,784,000	39,069,000
August	28,010,000	348,000	4,193,000	29,779,000	33,455,000
September	27,716,000	515,000	3,539,000	28,409,000	29,738,000
October	28,903,000	365,000	3,959,000	25,497,000	29,550,000
November	28,558,000	417,000	3,724,000	24,400,000	30,401,000
December	28,512,000	282,000	3,154,000	23,718,000	32,323,000
1927 Total	330,667,000	5,003,000	44,442,000	297,928,000	.....

*Revised.

Of the 32,323,000 barrels of gasoline stocks Dec. 31, 22,158,000 barrels was held at tide water points on the Atlantic, Gulf and Pacific coasts. A year before tide water stocks made up 26,091,000 barrels of the 39,023,000 barrels of stocks. The percentages of tide water stocks to total stocks was 68.5 at the end of 1927 and 66.8 at the end of 1926. This increase was due principally to the building up of the California stocks while stocks were lowered in other important refining regions.

There was only a small change in natural gasoline output in December from November output. Stocks, however, were reduced 85,550 barrels to 734,450 barrels when refiners increased their use of this material in making winter grades of gasoline. There was a small increase in both production and stocks of blended motor fuels.

Of the 28,512,000 barrels of gasoline produced in December 16,613,000 barrels or 57 per cent was straight-run, 9,167,000 barrels or 32 per cent

Natural Gasoline and Motor Blends — Barrels

Districts	Daily Avg. Production Dec. (net)	Daily Avg. Production Nov. (net)	Stocks End of December	Stocks End of November	Motor Fuel Blends Made in December	Motor Fuel Blends Made in November	Stocks of Blends End of December	Stocks of Blends End of Nov.	Districts
Appalachian	7,680	6,587	77,143	69,476	5,452	6,452	6,333	5,881	Appalachian
Ind., Ill., etc.	998	1,110	6,690	7,000	1,976	833	357	333	Ind., Ill., etc.
Okla., Kans., etc.	44,009	42,619	372,262	423,191	116,857	112,405	19,095	17,286	Okla., Kans., etc.
Texas	20,737	21,825	209,262	248,143	20,905	20,286	3,310	2,786	Texas
La. and Ark.	5,223	5,317	27,667	31,286	12,571	13,452	1,167	1,071	La. and Ark.
Rocky Mountain	2,152	3,095	11,095	11,167	762	2,668	2,095	2,548	Rocky Mountain
Total east of Calif.	80,799	80,555	704,119	790,262	158,523	156,096	32,357	29,905	Total east of Calif.*
California	32,488	33,095	30,333	29,738	.....	.....	214	213	California
U. S. Total	113,287	113,650	734,452	820,000	.....	.....	32,571	30,119	U.S. Total

Lubricants Situation by Districts — Barrels

Districts	December Daily Avg. Output	November Daily Avg. Output	December Change %	December Da. Avg. Shipments	November Da. Avg. Shipments	December Change %	Stocks December 1927	Stocks November 1927	Stocks December 1926	Districts
East Coast	30,645	22,267	+37.62	27,193	27,800	— 2.18	2,629,000	2,522,000	2,599,000	East Coast
Appalachian	11,774	12,567	— 6.31	10,742	11,567	— 7.13	1,095,000	1,063,000	993,000	Appalachian
Ind., Ill., etc.	11,065	10,467	+ 5.71	9,129	7,967	+14.58	840,000	780,000	647,000	Ind., Ill., etc.
Okla., Kans., etc.	5,935	6,767	—12.29	4,612	5,133	—10.15	512,000	471,000	423,000	Okla., Kans., etc.
Texas	20,935	20,100	+ 4.15	19,355	22,433	—13.72	1,671,000	1,622,000	1,773,000	Texas
La. and Ark.	2,226	1,600	+39.12	1,806	1,533	+17.81	114,000	101,000	119,000	La. and Ark.
Rocky Mount.	1,710	1,500	+14.00	1,226	1,333	— 8.03	127,000	112,000	150,000	Rocky Mount.
California	6,064	7,300	—16.93	5,452	6,800	—19.82	872,000	853,000	872,000	California
U. S. Total	90,354	82,567	+ 9.43	79,515	84,566	— 5.97	7,860,000	7,524,000	7,576,000	U. S. Total
Texas Gulf Coast	19,806	18,933	+ 4.61	18,645	21,233	—12.19	1,606,000	1,570,000	1,738,000	Texas Gulf Coast
La. Gulf Coast	2,193	1,600	+37.06	1,806	1,500	+20.40	113,000	101,000	119,000	La. Gulf Coast

Gas and Fuel Oil Situation by Districts — Barrels

Districts	December Daily Avg. Output	November Daily Avg. Output	December Change %	December Da. Avg. Shipments	November Da. Avg. Shipments	December Change %	Stocks December 1927	Stocks November 1927	Stocks December 1926	Districts
East Coast	230,226	227,733	+ 1.10	217,161	219,802	— 1.20	11,209,000	10,804,000	6,519,000	East Coast
Appalachian	18,484	18,267	+ 1.19	18,387	19,767	— 6.98	1,068,000	1,065,000	788,000	Appalachian
Ind., Ill., etc.	66,548	61,900	+ 7.51	82,806	65,867	+25.72	1,434,000	1,938,000	1,145,000	Ind., Ill., etc.
Okla., Kans., etc.	89,064	91,100	— 2.23	116,839	92,967	+25.68	5,205,000	6,066,000	5,008,000	Okla., Kans., etc.
Texas	198,581	207,833	— 4.45	229,516	198,200	+15.80	8,727,000	9,686,000	8,026,000	Texas
La. and Ark.	74,935	75,000	— 0.08	66,484	71,300	— 6.75	3,681,000	3,419,000	2,256,000	La. and Ark.
Rocky Mount.	20,677	21,467	— 3.68	20,710	20,533	+ 0.86	658,000	659,000	1,156,000	Rocky Mount.
California	366,936	383,167	— 4.24	.....	.....	.....	.....	.....	.....	California
Total	1,065,451	1,086,467	— 1.93	*1,118,839	*1,071,600	*+ 4.41	*31,982,000	*33,637,000	*24,898,000	Total
Texas Gulf Coast	148,613	155,000	— 4.12	180,968	147,000	+23.11	7,004,000	8,007,000	6,996,000	Texas Gulf Coast
La. Gulf Coast	39,968	40,168	— 0.50	31,226	37,133	—15.91	3,120,000	2,849,000	1,590,000	La. Gulf Coast

*East of California.

Coke, Asphalt, Miscellaneous Products

	Coke Output (Tons)	Coke Stocks (Tons)	Asphalt Output (Tons)	Asphalt Stocks (Tons)	Miscel. Products Output (Bbls.)	Miscel. Products Stocks (Bbls.)	Unfin. Oil Output (Bbls.)	Unfin. Oil Stocks (Bbls.)	Losses (Bbls.)	
January, 1926	73,701	230,566	162,383	174,564	491,652	1,063,619	2,097,000	37,880,000	1,995,000	January, 1926
February	64,105	210,247	152,468	182,063	481,428	1,073,238	2,340,500	28,808,000	1,767,000	February
March	80,689	219,820	210,596	195,052	597,810	1,217,119	2,195,928	39,098,000	2,059,000	March
April	76,031	216,163	198,598	239,953	572,381	1,138,095	2,481,952	38,785,000	1,982,000	April
May	79,982	234,025	248,390	229,819	779,310	1,210,428	2,756,024	38,681,000	2,270,000	May
June	81,326	246,707	300,970	200,881	784,476	1,010,381	2,767,000	40,081,000	2,308,000	June
July	83,358	260,727	281,196	184,853	800,310	897,452	2,927,214	38,527,000	2,419,000	July
August	89,100	277,668	305,944	200,175	733,000	858,000	2,848,000	39,822,000	2,605,000	August
September	95,111	287,546	308,572	188,512	749,000	835,000	2,721,000	39,500,000	2,492,000	September
October	87,946	287,354	323,348	187,845	738,000	863,000	2,790,000	40,006,000	2,437,000	October
November	91,459	285,905	215,973	166,788	661,000	1,030,000	2,455,000	38,770,000	2,267,000	November
December	92,500	290,582	213,697	193,331	644,000	1,100,000	2,399,000	38,829,000	2,288,000	December
1926, Total	995,308	.....	2,922,788	.....	8,030,000	.....	31,240,000	.....	26,928,000	1926, Total
January, 1927	92,914	287,394	191,180	215,337	511,000	1,189,000	2,473,000	39,287,000	2,367,000	January, 1927
February	88,102	294,682	172,685	234,450	546,000	1,282,000	2,729,000	38,986,000	2,091,000	February
March	98,163	325,521	222,309	235,251	525,000	1,356,000	2,412,000	39,392,000	2,369,000	March
April	88,404	318,529	273,767	219,502	561,000	1,410,000	1,978,000	38,095,000	2,237,000	April
May	87,900	329,400	319,000	222,500	599,000	1,368,000	1,809,000	37,760,000	2,599,000	May
June	95,300	293,100	347,100	232,400	677,000	1,180,000	2,283,000	38,192,000	2,487,000	June
July	90,400	305,800	334,700	214,100	747,000	928,000	2,490,000	39,647,000	2,516,000	July
August	94,800	303,600	339,500	192,200	743,000	879,000	1,955,000	38,711,000	2,598,000	August
September	97,500	313,500	333,100	176,300	634,000	863,000	1,811,000	36,962,000	2,453,000	September
October	101,600	331,300	332,600	189,400	663,000	960,000	1,977,000	35,874,000	2,405,000	October
November	102,300	349,200	290,000	196,200	606,000	1,120,000	2,121,000	35,209,000	2,145,000	November
December	107,800	345,100	262,600	220,800	593,000	1,221,000	2,435,000	35,314,000	2,062,000	December
1927 Total	1,145,183	.....	3,418,541	.....	7,405,000	.....	26,473,000	.....	28,329,000	1927 Total

Daily Average Runs to Stills—All Oils—Barrels

	East Coast	Appala.	Ind.-Ill.	Okla.-Kans.	Texas	La.-Ark.	Rocky Mt.	Calif.	Total U. S.	
January, 1926	334,742	73,516	185,709	261,903	426,129	196,484	87,548	558,097	2,120,900	January, 1926
February	360,036	78,428	192,964	256,857	434,674	200,357	96,250	549,821	2,169,400	February
March	369,032	74,677	187,419	250,742	422,774	203,839	98,355	563,228	2,176,500	March
April	365,400	77,133	203,033	266,000	451,667	205,867	98,733	557,900	2,225,200	April
May	373,516	81,677	211,065	293,903	431,451	199,161	101,322	588,613	2,280,700	May
June	382,800	85,433	211,467	293,267	446,867	207,433	107,033	574,033	2,308,300	June
July	418,742	83,097	210,193	292,645	448,516	206,839	102,355	575,193	2,337,600	July
August	395,935	87,613	208,677	300,484	446,484	211,129	106,903	599,645	2,356,900	August
September	404,600	86,667	212,300	300,167	452,900	213,000	109,333	607,867	2,386,833	September
October	427,935	87,645	208,710	279,645	482,935	210,612	113,323	587,645	2,398,500	October
November	462,200	86,567	214,600	288,800	480,466	209,033	108,566	585,633	2,435,866	November
December	442,968	84,838	209,355	284,516	516,354	226,903	102,613	589,322	2,456,870	December
January, 1927	408,355	82,581	206,226	278,258	517,160	228,516	103,161	616,516	2,440,774	January, 1927
February	412,714	86,928	197,785	295,964	504,642	228,107	103,321	633,108	2,462,571	February
March	439,387	83,097	209,161	283,548	479,806	224,903	103,290	597,839	2,421,032	March
April	411,367	84,400	204,067	286,067	491,567	224,400	100,500	615,333	2,417,701	April
May	413,516	82,000	226,677	293,581	494,806	212,129	75,839	618,452	2,417,000	May
June	429,967	85,400	238,067	301,733	490,633	199,933	87,300	605,733	2,438,766	June
July	439,871	80,935	250,387	317,129	482,839	199,194	87,226	633,032	2,490,613	July
August	465,839	86,065	237,194	319,516	481,032	202,226	76,032	618,516	2,486,420	August
September	453,000	87,100	225,667	327,300	483,900	211,600	71,700	637,467	2,497,733	September
October	475,580	91,161	229,677	307,774	513,419	204,968	80,871	617,937	2,521,387	October
November	471,667	84,200	246,100	298,667	515,533	197,900	89,800	619,733	2,523,600	November
December	467,226	83,484	250,516	292,355	494,806	199,226	87,354	592,710	2,467,677	December

cracked, and 3,034,000 barrels or 11 per cent natural gasoline. Of the 28,558,000 barrels produced in November, 16,613,000 or 58 per cent was straight run; 8,980,000 or 32 per cent was cracked and 32,161,000 or 10 per cent natural gasoline. Refiners in the Indiana-Illinois district are the largest crackers and use relatively the smaller amount of natural gasoline. Fourty-four per cent of their output is cracked. For all of 1927, 197,282,000 barrels of gasoline produced or 60 per cent was straight run, 101,224,000 barrels or 30 per cent cracked, and 32,161,000 barrels or 10 per cent natural gasoline—total produced at refineries 330,667,000 barrels.

In 1926 of the 299,734,000 barrels of gasoline produced 182,599,000 barrels or 61 per cent was straight run, 31 per cent cracked, and 24,399,000 barrels or 8 per cent natural gasoline. The 1927 output figures show a larger use of natural gasoline at the expense of both straight distilling and cracking.

To produce the 330,667,000 barrels of gasoline in 1927 831,883,000 barrels of crude were run to stills. After deducting from the gasoline output the volume of natural gasoline used, the 298,506,000 barrels of gasoline that came from straight distilling was 298,506,000 barrels or 35.8 per cent recovery. In 1926 the recovery of gasoline from crude was 35.3 per cent.

Kerosene output was curtailed 3,736 barrels daily average, or 2.32 per cent in December, as compared with November output. Output was increased in the Indiana-Illinois and Gulf Coastal regions. Elsewhere production was less. Shipments from refineries were 13.24 per cent larger in December than in November for the whole country. Shipments receded in only the Appalachian, Oklahoma-Kansas and Rock Mountain districts. Stocks increased in these three districts and also the Indiana-Illinois and Louisiana-Arkansas districts.

Stocks of kerosene Dec. 31 totaled 7,669,000 barrels, compared with 8,575,000 barrels Dec. 31, 1926. Kerosene domestic production, imports, exports and domestic demand were less in 1927 than in 1926.

Output of lubricating oils was in-

creased 9.53 per cent in December over November. The largest increase was at East Coast plants. Production was reduced by the Appalachian refineries but increased at the Indiana-Illinois and Texas plants. Shipments were 5.97 per cent less than November shipments. Stocks increased 336,000 barrels, to 7,860,000 barrels Dec. 31, which were 284,000 barrels more than stocks Dec. 31, 1926.

Production of lubes in 1927 totaled 31,721,000 barrels, compared with 32,293,000 barrels in 1926. Imports were of little consequence in either year. Exports at 9,810,000 barrels in 1927 were 375,000 barrels more than 1926 exports. Domestic demand fell 934,000 barrels in 1927 to 21,634,000 barrels.

Production of paraffin wax totaled 584,347,000 pounds last year, or 61,468 pounds less than 1926 production. Imports rose from 9,983,000 in 1926 to 20,462,000 pounds last year. Exports rose 3,752,000 pounds to 339,336,000 pounds. Domestic demand rose 32,315,000 pounds to 283,590,000 pounds. Stocks of wax were lowered 18,117,000 pounds to 167,214,000 pounds Dec. 31.

December output of wax was the largest since January, 1927, 54,039,000 pounds. Domestic demand rose more than 12,000,000 pounds to 29,862,000 pounds, the heaviest movement in one month in the last two years. Exports, however, fell almost 2,000,000 pounds to 30,569,000 pounds. Stocks were reduced 4,486,000 pounds in December.

Output of gas and fuel oil was larger in December than in November in the refining districts east of the Mississippi river but smaller west of the river and on the Pacific coast. In the whole country production averaged 1.93 per cent less than November.

Shipments of gas and fuel oil were less from East Coast, Appalachian and Louisiana-Arkansas plants and larger in other districts east of California. Figures on California shipments are not available. East of California the December shipments were 4.41 per cent more than the November shipments and stocks were lowered 1,655,000 barrels to 31,982,000 barrels.

Output and exports of gas and fuel oil were larger in 1927 than in 1926, but no specific figures are available on consumption because of the lumping of fuel and heavy crude oil in the California report. Stocks of gas and fuel oils east of California rose 7,084,000 barrels in 1927.

Movement of oil through the Panama canal from the Pacific to the Atlantic and Gulf ports was slightly lower in 1927 than 1926. Crude movement totaled 10,691,000 barrels in 1927 and 11,104,000 barrels in 1926. Movement of refined products totaled 23,010,000 barrels in 1927 and 23,149,000 barrels in 1926. Gasoline movement, however, has a large increase, the movement totaling 11,675,-

Kerosene, Lubes, Wax, Fuel and Gas Oils

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
KEROSENE (Bbls.)					
January, 1926	5,122,000	.....	1,871,000	3,521,000	6,851,000
February	4,746,000	1,000	1,577,000	3,166,000	6,855,000
March	5,516,000	1,000	1,876,000	3,492,000	7,004,000
April	5,037,000	1,000	1,760,000	3,268,000	7,014,000
May	5,210,000	4,000	1,623,000	3,227,000	7,378,000
June	5,009,000	3,000	1,601,000	2,908,000	7,881,000
July	4,877,000	21,000	1,612,000	2,733,000	8,434,000
August	5,162,000	20,000	2,689,000	2,731,000	8,196,000
September	5,207,000	21,000	1,843,000	3,419,000	8,162,000
October	5,126,000	3,000	1,818,000	3,235,000	8,238,000
November	5,357,000	.....	1,943,000	3,592,000	8,060,000
December	5,399,000	.....	1,847,000	3,037,000	8,575,000
1926 Total	61,768,000	†74,000	†22,248,000	†38,140,000	.....
January, 1927	5,113,000	.....	1,616,000	3,882,000	8,190,000
February	4,453,000	1,000	1,399,000	2,590,000	8,655,000
March	4,802,000	3,000	1,351,000	3,356,000	8,753,000
April	4,608,000	1,000	1,861,000	2,776,000	8,725,000
May	4,663,000	1,000	1,633,000	3,188,000	8,568,000
June	4,308,000	2,000	1,616,000	2,695,000	8,567,000
July	4,484,000	.....	1,376,000	2,637,000	9,038,000
August	4,420,000	4,000	1,700,000	3,389,000	8,373,000
September	4,686,000	.....	1,659,000	3,280,000	8,120,000
October	4,884,000	1,000	2,211,000	3,469,000	7,325,000
November	4,824,000	27,000	1,821,000	2,514,000	7,841,000
December	4,869,000	15,000	1,237,000	3,819,000	7,669,000
1927 Total	56,114,000	55,000	19,480,000	37,595	.....
LUBRICANTS (Bbls.)					
January, 1926	2,648,000	2,000	727,000	1,632,000	7,544,000
February	2,448,000	1,000	789,000	1,294,000	7,910,000
March	2,646,000	4,000	740,000	2,180,000	7,640,000
April	2,692,000	3,000	928,000	2,039,000	7,368,000
May	2,963,000	11,000	717,000	1,869,000	7,656,000
June	2,681,000	3,000	984,000	2,042,000	7,314,000
July	2,831,000	1,000	747,000	2,071,000	7,328,000
August	2,648,000	2,000	660,000	2,092,000	7,226,000
September	2,645,000	2,000	705,000	2,019,000	7,149,000
October	2,768,000	2,000	704,000	1,778,000	7,437,000
November	2,724,000	1,000	820,000	1,722,000	7,620,000
December	2,699,000	1,000	917,000	1,827,000	7,576,000
1926 Total	32,293,000	33,000	†9,435,000	†22,568,000	.....
January, 1927	2,570,000	†1,000	864,000	1,496,000	7,867,000
February	2,345,000	.....	620,000	1,231,000	8,361,000
March	2,754,000	†1,000	895,000	2,334,000	8,035,000
April	2,615,000	1,000	763,000	1,712,000	8,176,000
May	2,625,000	1,000	863,000	1,928,000	8,011,000
June	2,571,000	1,000	758,000	2,197,000	7,628,000
July	2,672,000	.....	993,000	1,811,000	7,496,000
August	2,752,000	1,000	754,000	2,004,000	7,491,000
September	2,782,000	.....	861,000	1,965,000	7,447,000
October	2,757,000	1,000	839,000	1,782,000	7,584,000
November	2,477,000	.....	798,000	1,739,000	7,524,000
December	2,801,000	.....	802,000	1,663,000	7,860,000
1927 Total	31,721,000	7,000	9,810,000	21,634,000	.....
WAX (Pounds)					
January, 1926	53,015,000	632,000	29,061,000	18,204,000	122,773,000
February	50,307,000	668,000	28,709,000	21,075,000	123,964,000
March	55,714,000	456,000	25,005,000	24,788,000	130,341,000
April	55,371,000	647,000	31,560,000	18,715,000	136,084,000
May	56,135,000	213,000	23,968,000	19,068,000	149,396,000
June	50,673,000	833,000	27,300,000	18,348,000	155,254,000
July	54,267,000	2,089,000	30,768,000	24,138,000	156,704,000
August	54,441,000	968,000	26,906,000	20,142,000	165,065,000
September	49,228,000	252,000	29,303,000	25,463,000	159,779,000
October	56,011,000	1,384,000	28,365,000	20,884,000	167,925,000
November	54,678,000	674,000	25,164,000	21,059,000	177,054,000
December	55,950,000	1,189,000	28,410,000	20,452,000	185,331,000
1926 Total	†645,815,000	†9,983,000	†335,584,000	†251,274,000	.....
January, 1927	54,114,000	460,000	29,228,000	17,842,000	192,835,000
February	47,363,000	2,048,000	23,623,000	20,171,000	198,452,000
March	53,644,000	910,000	28,205,000	23,461,000	201,340,000
April	48,917,000	1,505,000	25,421,000	15,322,000	211,019,000
May	46,267,000	729,000	25,228,000	25,458,000	207,329,000
June	44,938,000	400,000	24,200,000	29,659,000	198,808,000
July	47,979,000	2,789,000	25,970,000	32,105,000	191,501,000
August	41,576,000	2,656,000	34,229,000	20,859,000	180,645,000
September	47,888,000	3,040,000	31,780,000	29,621,000	170,172,000
October	49,476,000	887,000	28,342,000	21,826,000	170,367,000
November	48,146,000	3,132,000	32,541,000	17,404,000	171,700,000
December	54,039,000	1,906,000	30,569,000	29,862,000	167,214,000
1927 Total	584,347,000	20,462,000	339,336,000	283,590,000	.....
GAS and FUEL OILS (Bbls.)					
January, 1926	28,981,000	863,000	3,612,000	.....	*23,266,000
February	27,094,000	1,585,000	3,190,000	.....	*21,445,000
March	29,824,000	947,000	2,345,000	.....	*20,037,000
April	29,029,000	1,148,000	3,475,000	.....	*19,788,000
May	30,380,000	1,368,000	2,735,000	.....	*20,858,000
June	29,130,000	1,856,000	3,370,000	.....	*22,554,000
July	31,461,000	1,485,000	2,427,000	.....	*25,696,000
August	31,154,000	1,629,000	3,582,000	.....	*26,500,000
September	30,698,000	817,000	2,750,000	.....	*27,151,000
October	32,444,000	857,000	2,015,000	.....	*26,376,000
November	31,624,000	1,111,000	5,020,000	.....	*26,859,000
December	33,376,000	764,000	3,830,000	.....	*24,898,000
1926 Total	365,195,000	14,432,000	38,351,000	.....	.....
January, 1927	32,936,000	660,000	3,732,000	.....	*23,195,000
February	30,185,000	1,053,000	3,812,000	.....	*22,099,000
March	32,377,000	525,000	3,657,000	.....	*22,561,000
April	31,856,000	805,000	3,325,000	.....	*23,732,000
May	33,499,000	826,000	4,544,000	.....	*26,059,000
June	31,691,000	851,000	4,278,000	.....	*26,590,000
July	33,693,000	849,000	4,047,000	.....	*28,890,000
August	34,098,000	391,000	4,639,000	.....	*30,346,000
September	32,339,000	341,000	3,258,000	.....	*31,631,000
October	34,045,000	667,000	4,206,000	.....	*33,191,000
November	32,594,000	704,000	4,013,000	.....	*33,637,000
December	33,029,000	451,000	3,828,000	.....	*31,982,000
1927 Total	392,342,000	8,123,000	47,339,000	.....	.....

*These stocks for east of California only.
†Revised.

000 barrels in 1927 and 8,453,000 barrels in 1926.

The December report compiled under the direction of H. R. Hopkins covers the operations of 318 refineries with a rated combined capacity of 2,869,000 barrels of crude daily, which operated at 79 per cent of capacity. The November report covered 322 refineries which were operated at 81 per cent of their capacity.

S. O. California to Buy Tri-Motored Plane

SAN FRANCISCO, Feb. 3.—Pres. K. R. Kingsbury of the Standard Oil Co. of California announced last week that the company has decided to purchase a tri-motored airplane with a capacity of 8 to 10 occupants, to be used in California.

Lieutenant-Commander George O. Noville of the Standard Oil Co., who was Commander Byrd's flight engineer on the North Pole expedition and who flew with Byrd across the Atlantic, left last week for the east to place the order for the plane.

The Standard has shown considerable interest in aviation matters for the past three years. More than two years ago, at the suggestion of the war department, the company initiated a coast-wide plan of painting on the roofs of its warehouses, the names of cities and towns in some 12 to 20 foot letters, as guide signs to aviators. Today nearly 500 such signs are in existence on the west coast, readable from several thousand feet in the air.

The new airplane plans visits to practically all of the airports of the Pacific coast to assist in the development of aviation through arousing public interest. The plane also will be used by laboratory experts for study and research in connection with airplane fuels and lubricants and for the transport of company officials on business trips.

In making announcement of the company's plans, Mr. Kingsbury said:

"The general use of the airplane by American business institutions is inevitable as every one knows, flying is far past the experimental stage and the airplane has a very definite commercial value to business. We hope to show the Pacific coast the last word in airplane development and to give a demonstration of the commercial usefulness of aircraft. We also attach great importance to the opportunity we shall have for research in the field of fuels and lubricants for airplanes."

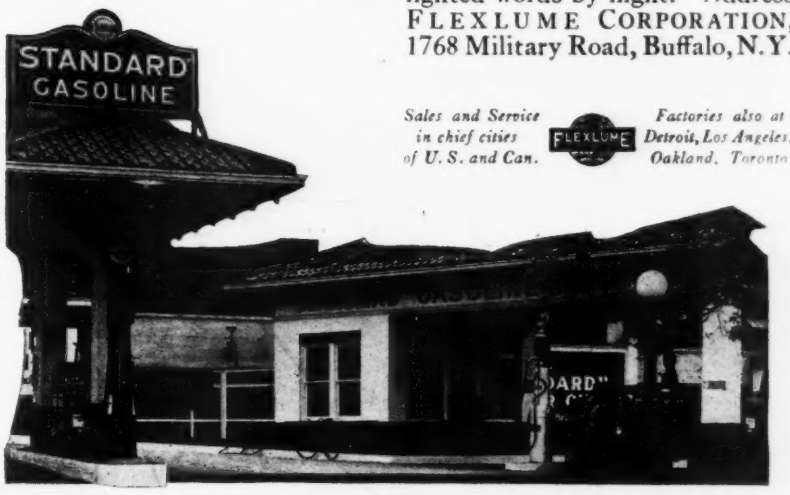
CHICAGO, Feb. 3.—R. L. Fowler, formerly vice president and general manager of Pierce Petroleum Corp., of St. Louis, is now living in Chicago. For three months he has been general factory manager of Sears, Roebuck & Co.

Motorists Buy Gas From Signs

CAN TRAFFIC spot your station from far enough away to have time to notice and to think "*There's* where I'll get gas and oil".

If not, you are losing sales you can begin at once to gain. Motorists cannot overlook the prominence of a Flexlume electric sign, standing up and out where it must be clearly seen and easily read by traffic approaching from both directions.

Let us submit, without obligation, a color sketch of a Flexlume, a beautiful and striking display by day and brilliant with electric lighted words by night. Address FLEXLUME CORPORATION, 1768 Military Road, Buffalo, N.Y.



Sales and Service in chief cities of U. S. and Can. FLEXLUME *Factories also at Detroit, Los Angeles, Oakland, Toronto*

FLEXLUME ELECTRIC DISPLAYS

Old Methods make no Profit

HOW long would a grocer hold your business if, when you asked him for molasses, he said, "You'll have to wait a few minutes while I go into the back room and pump it out of a barrel."

Such methods waste not only his own time but, worse yet, the time of his customers. The modern merchant,—the fellow you like to patronize, topples a can off the shelf and asks, "What else?" He serves you well and makes a profit.

The day is past when a filling station's patronage "comes without calling". Today the fellow who is ready when the motorist drives in,—who has his oil measured out and waiting in Rhodes Dispensers, is the fellow who increases his business and his profit.

JAY B. RHODES COMPANY
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RHODES PRE-FILLED OIL DISPENSERS

THE WORLD'S LARGEST

OIL CRACKING UNIT IS SMITHWELDED

The Precipitator, which is shown above, is 67 feet long, 10 feet inside diameter, 3½ inches uniform wall thickness, weighs 366,000 pounds and was made in our plant by Smithwelding.

A Tower, which is 70 feet long, 8 feet inside diameter, 3½ inches uniform wall thickness, and weighs 284,000 pounds and was welded onto the Precipitator at the refinery by the same patented and exclusive Smithwelding process.

This is the World's Largest Oil Cracking Unit.

A. O. SMITH CORPORATION, *Oil and Gas Field Products Division*

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Manufacture of Asphalt Profitable For Plants With Suitable Crude

By D. F. Gerstenberger

AMONG the products that pay well in the refinery operation, asphalt ranks well up in the list. Methods of manufacture for the various grades, from fluxes on down to the high melting point, oxidized stocks vary somewhat especially in the finishing process.

Most stocks can be made from reduced crude provided the reduction has been carried on in a manner to minimize cracking. Residues from crudes that have been cracked to any extent cannot as a rule be successfully used, for the cracking creates a granular residue which affects the penetration and ductility.

The crude which for years was the backbone of the asphalt business was Mexican, both light and heavy, the latter being more commonly known as Panuco. Some of this crude is still used for this purpose but in recent years asphalt manufacturers have been forced to turn elsewhere for crudes containing a sufficient quantity of asphalt to make their use for this purpose profitable.

We will deal first with methods of still operation and will follow with processing of two crudes which the writer has had experience in handling for the production of asphalt. The most common method in use for the making of fluxes, road oils, binders, and asphalt for paving purposes, is the reduction to the proper tests by the use of steam and fire. Most of these stocks can be made by reducing the crude first in a continuous battery if so desired and by finishing to the desired specifications in batch stills. Assuming this to be our method of operation, we will take the operation through the entire process of batching the product either for steam reduced or oxidized asphalt.

The still should be lined up with everything open to the house and if it has been pumped out just prior to refilling, it is necessary to steam it only a sufficient length of time to insure that all the air is excluded from the still. The hot reduced oil is then flowed into it in the same manner as previously described in article No. 8 (Dec. 28 issue, page 53) for the flowing of stills. As soon as the fire sheet is covered the top steam may be cut out and the fire lighted.

The distillation is carried forward as rapidly as possible, refluxing any of the overhead as may be deemed necessary according to the particular product being made. Occasional melting point tests are made of the residue to keep check on the reduction going on.

When steam reduced products are being made the amount of steam used is usually governed by a certain number of spokes or preferably by use of a low pressure steam gauge on the entry line, and set rules are established for the amount of steam necessary for the particular product being made at the time.

As the asphalt approaches the desired specifications, care must be exercised not to carry the distillation beyond the desired point. The fire is usually cut out as the test is neared and the desired test reached with the use of steam and the maintaining of the temperature which the still registers at that time.

IT WILL usually be found advisable to go carefully beyond the desired test, which can be determined after several runs with the particular equipment being used as the condensing of vapors at that time in the still have a tendency to raise the penetration and lower the melting point. In other words, if a 52 penetration asphalt is desired it will usually be found that the still must be run to a final test of about 50 in the still and the asphalt will approach very closely the desired 52 after the still has been shut off and the product removed.

After the asphalt has been pumped out, the pumping line should be blown back to the still with air to insure that it is left open. During this procedure the line may become hot from oxidation, but so long as this heating does not become extreme it is helpful to melt out any coating that might otherwise be left in the line. The line should be carefully watched when the pumping starts to be sure that the asphalt continues to flow and that the line does not become plugged. The line is clear if it gradually becomes heated from the still to the tank. If plugging seems to occur the line should immediately be blown back to the still. Sometimes this method must be repeated several times before the product will flow freely.

A great many of the asphalts in use are oxidized before they are marketed. This is done in one of two ways generally; that is, in the still or in a tank especially prepared for this purpose. When done in the still, air is usually admitted after the oil has been reduced to a certain flash with fire and steam. Top steam is then introduced to guard against combustion and the required amount of air is blown through the oil until the desired tests are reached. The still is usually held at a certain temperature during this procedure. The product is then handled in like manner to the steam reduced stocks just described.

WHEN oxidizing in a tank the oil is reduced to a definite flash point and is then flowed hot into an insulated tank where the oxidation is brought about in a similar way to oxidizing in the still. The temperature is governed by the amount of air used.

The advantage claimed for the oxidizing tank is mainly still capacity for the stills are then available for reducing purposes. However, there seem to be a great many refiners who prefer the still for this purpose, claiming that the desired test can be more readily reached in the still than in the tank.

It is possible to store asphalt in insulated tanks provided high tem-

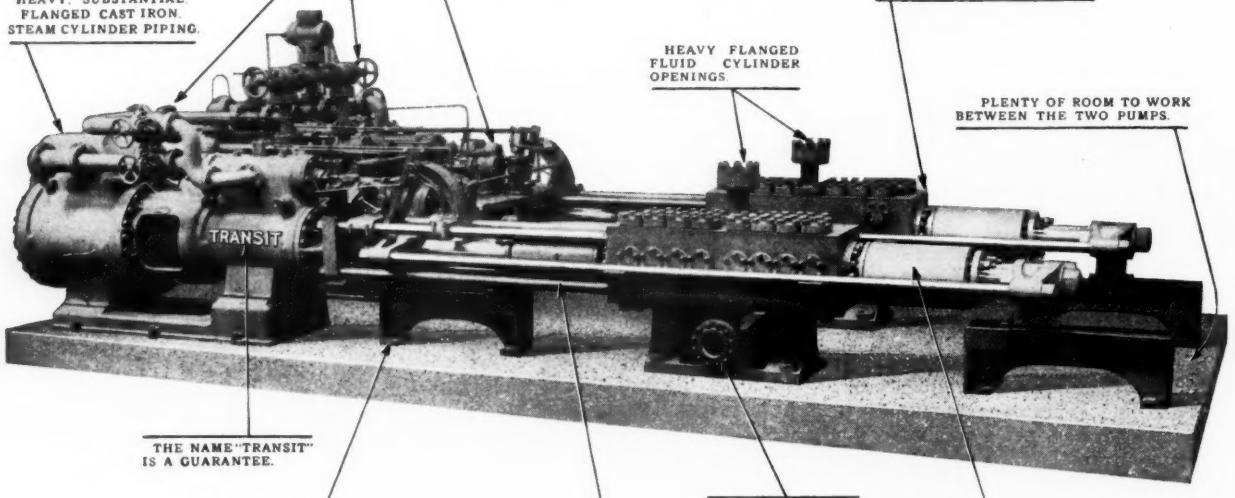
Methods of Manufacturing

IS THERE a large amount of heavy asphaltic fuel oil moving away from some of the country's refineries that might be converted into asphalt and sold at a more profitable price than it is now bringing? Mexican crude, once the raw material for most of the asphalt produced in this country, is diminishing in supply. However, there is domestic asphaltic crude and Mr. Gerstenberger's article raises the question whether the asphalt branch of the business has been developed as completely as it might be.

He also discusses various methods of making asphalt from two crudes with which he has had experience, the methods of storing, pumping, packaging and shipping it.

The accompanying is one of a series of articles on refinery operation written exclusively for NATIONAL PETROLEUM NEWS by Mr. Gerstenberger, from his practical experience.

Features of TRANSIT HOT OIL PUMPS *visualized* for you


HEAVY BRASS GLOBE VALVES. THE BEST THAT CAN BE BOUGHT.
AUTOMATIC SYNCHRONIZER. KEEPS PUMPS FROM RECIPROCATING IN UNISON. ALSO CONTROLS ACTION, SO THAT IF ONE SIDE STOPS FOR ANY REASON, THE OTHER PUMP WILL AUTOMATICALLY DOUBLE UP IN SPEED AND MAINTAIN THE SAME PRESSURE.
SPECIAL ANALYSIS HEAT RESISTING STEEL FLUID END, MACHINED FROM A SOLID STEEL BILLET. NOTE LIBERAL NUMBER OF HAND HOLE PLATES FOR CLEANING CYLINDER, AND PLATES FOR INSPECTION AND REPAIR OF VALVES.
HEAVY, SUBSTANTIAL FLANGED CAST IRON STEAM CYLINDER PIPING.
HEAVY FLANGED FLUID CYLINDER OPENINGS.
PLENTY OF ROOM TO WORK BETWEEN THE TWO PUMPS.
TRANSIT
THE NAME "TRANSIT" IS A GUARANTEE.
HEAVY FLANGED FLUID CYLINDER OPENINGS
CROSSHEAD SLIDES CARRY WEIGHT OF SIDE RODS, CROSSHEADS AND FLUID PLUNGERS, THUS RELIEVING THE PACKING AND STUFFING BOX THROATS OF THIS WEIGHT.
TIE-BAR CONSTRUCTION. CUTS DOWN WEIGHT AND RENDERS THE STUFFING BOXES EASIER OF ACCESS.
EXTRA DEEP, WATER COOLED STUFFING BOXES, EACH EQUIPPED WITH TWO SETS OF PACKING AND A LANTERN GLAND. ABSOLUTELY SAFE—NO LEAKAGE. NO DANGER OF FIRE.

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FRICK-REID SUPPLY COMPANY
Tulsa, Okla., or any store

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perature steam is available or the asphalt stored does not have too high a melting point. It is usually desirable to keep working up the stock so stored, however, to insure that it is kept sufficiently hot to flow readily, and that it holds its test. In some cases, hollow tile is used for insulating purposes, in others, a regular insulation to meet certain specifications is used. Undoubtedly, the latter lends itself best to economy in steam consumption.

With certain crudes asphalt may be successfully made by the use of vacuum where cracking would otherwise hinder the manufacture of the proper product. In such an operation the crude is first reduced by skimming and is transferred after the gas oils of a lighter gravity have been removed, to the vacuum stills. Pumping is unnecessary, for the vacuum in the still being filled with the reduced crude will cause the still to fill itself as rapidly as the oil is allowed to flow into it. As much vacuum as is necessary can be maintained for the crude being handled, so as to carry on the reduction to asphalt as rapidly as possible and still obtain the desired tests.

Among the common asphalt used extensively is brick filler. It is made from Panuco crude by steam reducing to 375 flash and by oxidizing at a temperature of not above 400 until a penetration of from 35 to 40 has been reached.

180 asphaltum is likewise made from heavy Mexican crude by reducing with steam to 490 flash, and then oxidizing at 390 to a penetration of 15 to 18, and a melting point of 180 to 190.

220 asphaltum is made from heavy Mexican crude by reducing with steam to 375 flash, and running with air at 400 to a penetration of 13 to 15 and a melting point of 220.

Most paving asphalts range in penetration from 45 to 55, and are usually run with steam to the desired penetration and melting point. Likewise, practically all road binders are reduced by steam and fire, the tests varying according to the various locality in which they are used.

Some of the larger companies attempt to get a standardization of such products and classify them as binders A, B, etc. the thought being to cut down as much as possible on stocks of slightly varying tests.

Some asphalt products are made from refinery by-products or by mixtures of these with standard grades of asphalt. Refinery acid oil plays a part in the manufacture of some of the oxidized stocks. Paraffin acid oil is also used for this purpose. High gravity cracking plant tar is sometimes used for fluxing back road oils.

Smackover crude can be successfully run to a flux by the use of vacuum. It is suggested that other similar crudes might be advantageously handled for asphalt by this method of operation. Smackover crude for instance will yield a large percentage of asphalt base residue, which is sold extensively for fuel oil, but which brings a much better price as asphalt. This difference may be the means of making an unprofitable crude, a profitable one.

Asphalt is shipped in wooden drums, in steel drums, and in tank cars. The latter shipment is preferable when possible, for loading and handling costs are much lower for this method of shipment, naturally. Loading lines should be handled much in the same manner as the pumping out lines from the stills, being sure that they are always blown clear after the loading is complete, and taking due caution to prevent plugging when starting to load. Due to the fact that the product is loaded hot, it is usually necessary to allow a car to stand loaded for some time, in order that it may cool and be topped off after all froth has settled and contraction due to cooling has occurred.

Some contractors prefer to secure drummed stock in wooden barrels so that they may use the staves for firing their kettles. On the other hand, new barrels are too expensive for this purpose, and old barrels are not sufficiently plentiful to meet the demand, so that the steel drum of fairly light gauge iron has found a wide use for the shipment of asphalt.

If drum stock is to be shipped in any quantity, it is economical to manufacture the drums right at the plant. In this way, the asphalt can be put into practically new drums, and there is not the danger of the drums rusting through before shipment, causing additional expense of melting out such material, which seldom results in a product suitable for drumming again. Usually such a product must be mixed off again with fresh stock. Making your own drums will also eliminate freight on empty drums.

HIGH melting point oxidized stocks can be shipped in open top steel drums. Paving asphalt and binders are usually shipped in closed top drums. The wooden package presents difficulties due to leakage and seepage through the staves, unless the barrel is recoopered, for the hot asphalt will cause considerable shrinkage.

For loading drummed stock, the motor driven jack is preferable to hand labor, where the drums must be stacked, as it will save time and labor cost. The drums are usually stored on a covered loading platform level with the floor of the box car, and they are rolled into the car and on to the jack which quickly lifts them to the desired height to be stacked.

The filling of the drums is best accomplished with an overhead filling line which has a sufficient drop in elevation to enable it to drain when all filling is completed. Filling spouts are placed in the line at intervals to enable the filling, when once started, to continue uninterrupted and without the necessity of moving the drums. Hoses are used to enable all the drums to be reached. After the filling is complete, the line should be blown with air to insure that it is clear for the next filling. Like tank cars, the drums must be topped off after they have cooled down, in order to insure that they are full.

DELIVERY lines and pumping lines around the asphalt plant must be installed in a way to prevent, as much as possible, the plugging of the lines with chilled asphalt. For this reason the lines should be installed to prevent pockets as much as possible, and in a manner to keep them warm so any asphalt that might remain in them remains in a fluid state.

A good plan to follow is to run all lines in a covered trench wherever possible and heat the trench with steam if necessary. If the trench contains lines which are more or less in use the steam may be eliminated most of the time, for the heat from the line in use keeps the other lines warm. Where heating by the use of the trench is not possible the lines should be insulated together with a steam line, so that when necessary, they can be warmed up by the use of steam. Poorly installed lines in an asphalt plant will cause no end of expense.

Program Committee Is Announced for Natural Gasoline Meeting

TULSA, Feb. 5.—The Natural Gasoline Association of America will hold its seventh annual convention at the Hotel Mayo, Tulsa on May 22, 23 and 24, according to A. V. Bourque, secretary.

Business sessions will occupy the first two days and the third will be taken up in a sight-seeing trip to the Seminole field.

The program committee consists of S. C. Carney, chairman; Roxana Petroleum Corp.; Emby Kaye, general superintendent of the gasoline department, Skelly Oil Co., Tulsa, and E. L. Peck, Empire Gasoline Co., Bartlesville.

LOS ANGELES, Feb. 5.—Edwin H. Higgins, who has served as secretary for the Chamber of Mines and Oil of California during the past four years, was recently promoted to the position of managing director and secretary. D. S. Kilgour, who has been serving the organization as auditor, was made assistant secretary in addition to his duties as auditor.

2½ Cents Per Dollar Spent in Chicago Goes for Gasoline and Oil

CHICAGO, had 1,535 retail oil outlets in 1926, doing a total business of $51,908,900.

Of this total gasoline and oil sales amounted to $51,312,000 or 98.85 per cent and other merchandise to $596,000.

Average wage of the Chicago service station attendant was $1,694 a year or $14 more than the current union scale.

Of each retail dollar spent in Chicago 2.5 cents was for gasoline and oil.

These facts are taken from the retail distribution census of Chicago made in 1926 by the U. S. Department of Commerce.

Oil men and jobber's association agree that approximately 750 of these 1,535 stations are privately owned.

For six or seven years Chicago has been heralded as a city wherein it was not profitable to engage in the oil business because of keen competition between the large companies, high land values, and high labor costs.

Although the gross business of oil stations in Chicago averages $33,816.87 annually which means that it takes in $92.65 a day. There are 290 establishments that do less than $5,000 of business a year, gross. They take in $13.50 a day or less. The report further shows 204 are doing between $5,000 and $10,000 gross a year; 268 stations between $10,000 and $25,000 a year; 118 stations between $25,000 and $50,000 a year; 34 stations between $50,000 and $100,000, and six more than $100,000.

It has been said often, there are many filling stations in Chicago that

CLASSIFICATION OF RETAIL BUSINESS IN CHICAGO IN 1926

This table includes statistics on total sales, number of establishments, number of employes and proprietors and wages, merchandise inventory for average of the year and on Dec. 31, 1926 of 60 retail classifications as shown in the special census report of the U. S. Department of Domestic Commerce.

Class of Establishments	Number of Establishments	Persons Engaged and Wages				Merchandise Inventory		Sales
		Employes	Firm Members and Proprietors	Total	Total Salaries* and Wages	Average for Year	On Dec. 31, 1926	
All Classes	41,224	183,217	39,181	222,398	$263,128,600	$269,751,000	$256,465,900	$1,981,140,400
Art and Antique	161	221	177	398	320,500	1,098,100	1,078,700	3,182,200
Auto Accessory	831	1,699	911	2,610	3,164,400	4,088,500	3,924,200	23,892,400
Automobile	424	4,789	327	5,116	9,043,000	9,097,400	9,178,600	106,056,300
Bakeries	1,417	3,905	1,471	5,376	6,866,800	1,463,600	1,499,900	37,517,000
Boot and Shoe	1,073	3,685	840	4,525	5,270,200	10,421,100	10,369,300	44,375,900
Brick, Tile, etc	19	428	14	442	1,219,900	442,500	447,600	7,819,900
Casket and Undertakers Supplies	165	73	177	250	111,800	89,200	88,000	1,740,100
Cement, Lime and Plaster	6	149	3	152	362,800	71,700	73,100	2,568,900
Confectionery, Ice Cream and Soft Drinks	3,036	2,872	3,173	6,045	3,203,000	2,449,100	2,407,100	29,222,900
Cigars and Tobacco	1,318	1,082	1,316	2,398	1,474,700	2,262,700	2,316,900	24,467,400
Clothing—Women's	913	6,863	824	7,687	9,401,800	9,223,100	8,564,500	72,402,700
Clothing, Furnishings — Men's Ready to Wear	1,167	4,768	1,155	5,923	9,212,100	17,692,100	16,920,900	72,351,100
Coal and Wood	562	2,523	561	3,084	4,887,000	2,274,500	3,286,800	42,799,500
Custom Tailors	833	2,232	856	3,088	4,199,400	3,402,800	3,442,400	25,705,300
Dairy and Poultry Prod	187	3,599	168	3,767	8,871,600	264,400	281,300	33,455,900
Department	40	38,018	27	38,045	48,517,800	67,062,700	58,268,000	371,367,500
Drug	1,802	7,817	1,708	9,525	10,611,200	12,115,200	12,059,400	70,180,600
Dry Goods and Notions	1,663	4,494	1,744	6,238	4,893,100	15,066,100	14,770,500	52,976,900
Electrical Appl., Supply	256	1,241	237	1,478	2,296,700	1,776,900	1,819,200	13,140,000
Electric Ice Equipment	5	240	7	247	244,000	722,500	738,500	3,206,500
Fish, Sea Food (Fresh)	210	123	223	346	205,100	159,800	143,800	3,528,500
Florists	443	1,007	489	1,496	1,263,600	506,700	446,400	9,098,100
Fruit and Vegetables	1,231	689	1,118	1,807	848,300	429,700	417,200	14,409,900
Fur and Fur Clothing	207	765	234	999	1,525,400	2,668,000	2,274,300	11,806,700
Furniture, House Furnishings	1,279	8,294	1,178	9,472	13,253,500	20,710,700	20,124,300	100,096,100
Gasoline and Oil	1,535	3,351	1,212	4,563	5,675,700	1,816,100	1,948,000	51,908,900
General	12	117	11	128	107,100	235,300	195,100	1,075,200
Grocery and Delicatessen	8,475	11,645	7,364	19,009	18,542,400	15,241,800	15,156,900	193,455,700
Hardware, Agricultural Implt	1,021	1,690	1,128	2,818	3,093,500	8,114,400	7,922,500	30,908,400
Harness and Saddlery	35	7	37	44	9,600	36,800	40,000	196,700
Hat and Cap—Men's, Boys'	129	265	90	355	568,800	636,800	550,900	3,954,800
Hay, Grain and Feed	89	271	92	363	500,200	249,900	251,600	5,941,400
Ice	50	372	35	407	954,800	25,000	19,700	2,736,200
Iron and Steel	10	92	4	96	197,100	124,200	115,700	1,684,500
Jewelry	525	1,497	525	2,022	2,646,660	13,082,500	12,700,500	22,268,500
Junk	75	170	94	264	244,300	196,200	197,400	1,934,600
Lumber and Plng. Mill Prod	122	2,024	65	2,089	4,314,000	6,563,300	6,580,000	30,616,000
Meat and Poultry	2,615	3,390	2,770	6,160	6,097,700	1,580,200	1,628,800	83,082,700
Millinery, Artificial Flowers	579	1,510	503	2,013	1,556,700	707,200	615,400	10,305,900
Motorcycles and Bicycles	35	27	32	59	50,700	80,500	75,400	368,100
Musical Instr., Sheet Music	289	1,735	240	1,975	3,365,300	4,578,100	4,762,500	19,784,200
Office Equipment	159	1,784	98	1,882	3,440,100	2,827,200	2,836,100	19,510,200
Optical Goods	56	198	47	245	464,900	291,000	288,100	1,578,800
Other Building Material	148	1,028	114	1,142	1,971,600	1,755,300	1,723,600	15,858,100
Paint, Varnish and Glass	339	607	382	989	1,146,300	1,826,500	1,764,900	9,541,200
Paper and Paper Goods	35	221	29	250	291,800	172,700	163,200	1,686,100
Photog. Supply, Camera	64	89	65	154	143,700	121,500	120,300	1,043,300
Plumbing, Htg. Fixt. Supply	313	1,302	258	1,560	2,897,200	1,198,900	1,135,500	16,910,700
Radio	206	464	198	662	674,400	1,111,300	1,119,800	6,490,100
Restaurant	3,519	33,637	3,590	37,227	33,445,700	2,815,700	2,703,700	144,286,500
Scientific Apparatus	23	285	19	304	393,900	660,600	646,800	2,510,200
Sporting Goods	61	169	59	228	223,900	640,100	565,300	1,765,800
Staty., Book, Mag., etc	489	3,405	393	3,798	4,402,300	2,038,000	2,025,700	16,288,600
Stoves and Ranges	39	351	22	373	470,700	607,600	541,600	4,200,800
Toilet Articles and Prep	100	284	101	385	413,000	327,400	374,100	3,611,000
Toys and Games	35	29	36	65	23,100	74,500	70,800	306,800
Trunk and Leather Goods	116	389	116	505	565,100	816,600	824,800	3,711,300
Typewriter, Calculating Machines	29	718	17	735	1,457,500	710,200	726,400	5,727,000
Variety (incl. 5c-$1 Stores)	242	3,184	115	3,299	2,526,900	2,292,500	2,201,800	19,953,100
Wool and Yarn (Raw)	4	1	4	5	300	7,900	7,400	25,800
Miscellaneous	404	5,333	378	5,711	8,984,000	10,628,100	8,924,700	68,444,900

*Does not include any form of remuneration to Proprietors and Firm Members.

Gasoline Station Of Twenty Years Ago

Photo by C. P. Cushing, from Ewing Galloway, N. Y.

This station was located near Kansas City on the old Santa Fe trail. A White steamer is being serviced. Note the hose, a jointed steel pipe. Also note the old-fashioned gasoline lamp hanging in front of the station building

are operating at a loss or barely getting by. The census figures show 530, about one third, do less than $30 worth of business a day. The comparison shows Chicago ranks with Baltimore in having a large number of residents who do not use automobiles as sales per capita are small. In addition to the non-motoring population, Chicago has a large number of Sunday motorists who keep a car only for recreation.

ON THE other hand Chicago classifies with Denver in few sales per establishment. The probable reason is that both have typical western characteristics. These cities are not built up close, but are spread out.

Merchandising petroleum products is the eleventh retail line out of 60 in Chicago, from the standpoint of volume of business done in 1926. Sales of gasoline and oil through the retail stations within the corporate limits of Chicago that year amounted to $17.03 per capita. The population at that time was 3,043,795 persons.

The average salary paid to employees of oil distributors in Chicago in 1926 was $1,694. At that time the union scale in Chicago was $1,680 a year ($140 a month) so it is obvious that quite a few workers were being paid above the scale because the filling station men's arrangement did not permit of overtime and these figures do not include compensation for proprietors. In July, 1927, the labor union negotiated a wage increase of $5 a month for filling station men which puts them on a wage of $1,730 a year.

The oil marketing business in Chicago is up among the leaders in every respect but one, lagging behind in the volume of sales per individual establishment. Here is how the oil marketing business compares in the 60 classifications:

It is eleventh in gross sales and sales per capita.

It is seventh in number of retail outlets and seventh also in annual turnovers of merchandise.

It is fifteenth in number of employees and eighteenth in selling efficiency, the pay roll being 10.9 per cent of sales.

In only 12 other retail lines out of the list of 60 did the individual salesmen sell more per man. These men draw better than average pay, but the stations do not get the volume. In sales per establishment the oil industry ranks thirty-second which is below average.

Chicago's oil sales per capita are not half so large as Denver's although they are 72 cents higher than those of Baltimore. In sales per station Chicago oil men are somewhat better off than those of Denver but fall far short of Syracuse and Baltimore. (See Table 1.)

TO FIND the oil industry in eleventh place among the retail businesses of Chicago was a surprise to most men in the trade. Chicago has been called the "home of the department store", and department stores, as expected, led the list.

After striking out food and clothing merchants there are only three retail lines ahead of petroleum. They

Table 1

The oil industry in Chicago ranked thirty-second in volume of sales per retail establishment in 1926. In this one respect it is in the lower half of the list of 60 industries:

	Sales per establishment
Department stores	$9,284,187.50
Electric ice equipment	641,300.00
Cement, lime, plaster	428,150.00
Brick, tile, etc.	412,626.31
Lumber, etc.	250,950.82
Automobile agencies	250,132.78
Typewriters and calculating machines	197,482.76
Dairy and eggs	178,908.55
Iron and steel	168,450.00
Office equipment	123,705.66
Scientific apparatus	109,139.13
Stoves and ranges	107,712.82
Other building material	107,149.32
General stores	89,600.00
Variety stores (10c stores)	82,450.82
Women's clothing	79,301.97
Furniture, rugs, etc.	78,261.21
Coal and wood—fuel	76,155.69
Musical instruments, etc.	68,387.54
Hay, grain and feed	66,757.30
Men's clothing	61,996.65
Fur and fur clothing	57,037.19
Ice	54,724.00
Plumbing and heating fixtures	54,027.79
Electrical appliances	51,328.12
Paper and paper goods	48,174.28
Jewelry	44,320.95
Shoe stores	41,356.85
Restaurants	41,002.12
Drug stores	38,945.94
Toilet articles, etc.	36,110.00
Gasoline and oil	33,816.87

The extremely low establishments in volume of business are 35 harness and saddle stores and one raw wool store that run between $5000 and $7000.

are automobiles, furniture, and drugs. (See Table 2.)

Chicago's oil bill is 2½ per cent of its retail dollar. All retail stores are classified into 22 groups. Gasoline and oil are classified as fuels, along with coal, wood and ice. The city's gross fuel bill is 4.8 per cent of its retail business, the report shows, and oil is 54.1 per cent of the fuel bill; thus Chicago spends 2½ cents of its retail dollar for petroleum products.

The city oil inspector's office accounted for 250 million gallons of gasoline brought into Chicago in 1926. At that time 373,025 motor vehicles were registered in the city, including 51,080 trucks and 1,375 motorcycles, so the average consumption per vehicle was 670.2 gallons. The prevailing retail price in 1926 was 20 cents so the average gasoline bill was $134.04 per vehicle.

THE inspector's data checks closely with that of the Bureau of Census. Dividing the combined total gasoline and oil bill of $51,948,700 (as computed by the census) by 373,025 automobiles, shows the motorist spent $139.26 average for gasoline and oil.

Gasoline use for industrial purposes is not considered in the foregoing summary of the inspector's gasoline figures.

Table 4 shows that six other businesses maintained more stores in Chicago than did gasoline and oil. The census classified a business according to the merchandise bringing in the largest volume of sales. There were 1,535 stores with gasoline and oil as the main sales article, and a total of 1,808 stores not counting garages as services were not included in the survey of gasoline and oil sold. Total gasoline and oil sales were $51,948,700, of this $51,312,000 was from gasoline and oil stations and $636,700 from other outlets.

Table 5 shows that oil stations sold $596,900 worth of merchandise other than oil and gasoline. Sales of other things than petroleum products at filling stations amounts to 1.25 per cent of the gross sales, the survey figures show.

In order to place the correct interpretation on the government's data it is necessary to understand that the corporate limits of Chicago are not what the average man thinks when he mentions Chicago. In the incorporated city, it is now generally estimated, 3,150,000 people live and all of that is in Cook county, Ill. But the city is surrounded by suburbs extending into five Illinois counties and one in Indiana. These suburbs house a million people at least.

SOME of them are industrial suburbs and are largely self-contained while others are residential suburbs and commercially are a part of Chicago. Some suburban oil companies truck gasoline into the city and sell it while certain Chicago distributors market gasoline in the suburbs. Unless the census covered all business within a circle drawn through Wil-

Table 2

Ten kinds of retail establishments in Chicago did more business in 1926 than the marketing end of the oil business:

	Total sales
Department stores	$371,367,500
Grocery and delicatessen	193,455,700
Restaurants	144,286,500
Automobile agencies	106,056,300
Furniture, rugs, etc.	100,096,100
Meat and poultry	83,082,700
Women's clothing	72,402,700
Men's clothing	72,351,100
Drug stores	70,180,600
Dry goods and notions	52,976,900
Gasoline and oil	51,908,900

The survey shows only 40 department stores in Chicago as against 8,475 grocery and delicatessen.

Table 3

Ten kinds of retail establishments reached deeper into the Chicago man's pocket in 1926 than the oil station:

	Sales per capita
Department stores	$121.84
Grocery and delicatessen	63.47
Restaurants	47.32
Automobile agencies	34.78
Furniture, rugs, etc.	32.86
Meat and poultry	27.26
Women's clothes	23.76
Men's clothes	23.74
Drug stores	23.02
Dry goods and notions	17.38
Gasoline and oil	17.03

Sales per capita were computed from gross sales against a population of 3,043,795 in 1926.

Selling Gasoline and Oil In Chicago

A COMPOSITE picture of retail gasoline and oil marketing outlets in Chicago is given in the accompanying article from data gathered by the United States Department of Commerce in cooperation with the Chicago Association of Commerce. This is one of a series of articles being published by NATIONAL PETROLEUM NEWS on the census of 1926 retail distribution.

In Chicago, as in other cities analyzed in this series, the marketing of gasoline and oil is an important element in the retail business world, and the service station, on the whole, ranks high in comparison with other types of retail stores. In Chicago gasoline and oil ranked eleventh among 60 retail classifications, in total volume of business. This volume was done on a small inventory with a high turnover. Average employees wage was higher than that of all sales people. Gasoline and oil sales accounted for the larger portion of total service station sales, 98.85 per cent in fact while accessories, tobacco and other merchandise sales amounted to 1.15 per cent.

Other cities analyzed in this series were Baltimore, Nov. 9 issue, Syracuse, Nov. 16; Denver, Nov. 30; Atlanta, Jan. 4. Forthcoming articles will be on Kansas City, Seattle, Fargo, Providence, San Francisco, and Springfield, Ill.

Table 4

Six kinds of retail businesses maintained more stores in Chicago in 1926 than did the gasoline and oil business:

	Stores
Groceries and delicatessen	8,475
Restaurants	3,519
Confectionery and soft drinks	3,036
Meat and poultry	2,615
Drug stores	1,802
Dry goods and notions	1,663
Gasoline and oil	1,535

The 1,535 are filling stations. Gasoline and oil were available in Chicago at 1,808 places, about as numerous as drug stores.

Table 5

Other merchantile establishments than oil stations sold $636,700 worth of gasoline and oil in Chicago in 1926. Filling stations sold $596,900 worth of other things. Other stores sold oil products as follows:

	Gasoline and oil sales
Auto. accessory stores	$298,800
Automobile agencies	269,000
Groceries and delicatessen	31,700
Unclassified establishments	27,600
Hardware and implement stores	4,600
Paint and varnish stores	2,000
Meat and poultry stores	1,900
Furniture stores	1,100
Total	$636,700

Oil stations sales were as follows:

Automobile accessories	$576,300
Cigars and tobacco	7,900
Automobiles	7,300
Farming implements	3,500
Drugs, etc.	1,900
Total	596,900
Gasoline and oil	51,312,000
Total	$51,908,900

Super-Service stations of five or six departments were little known in Chicago until 1926 but are fairly numerous now so the above figures probably do not throw much light on present conditions.

Table 6

Only five retail lines in Chicago turned their stocks more often than gasoline and oil stations in 1926:

	Times
Dairy and eggs	126.5
Ice	109.4
Meat and poultry	52.6
Restaurants	51.2
Cement, lime, plaster	35.8
Fruits and vegetables	33.5
Gasoline and oil	28.6

Average turnover in the 60 retail lines was 7.3 times and jewelry was slowest with 1.7 times.

Table 7

Fourteen of the 60 groups of retail stores in Chicago in 1926 employ more help than the gasoline and oil stations:

	Employees
Department stores	38,018
Restaurants	33,637
Grocery and delicatessen	11,645
Furniture, rugs, etc.	8,294
Drug stores	7,817
Women's clothing	6,863
Automobile agencies	4,789
Men's clothing	4,768
Dry goods and notions	4,494
Bakeries	3,905
Shoe stores	3,685
Dairy and eggs	3,599
Stationery and books	3,405
Meats and poultry	3,390
Gasoline and oil	3,351

The above figures are exclusive of firm members and proprietors. Counting proprietors, oil station employees numbered 4,563.

mette and Hinsdale, Ill., and Gary, Ind., the grand totals might be off 30 per cent. But there is a doubt if a wider survey would make the break-up of the figures any more accurate, because the units of the metropolitan district are closely knitted together.

The average station in Chicago carries an inventory of $1,183 which it turns in less than two weeks. (See Table 6.) It employs two men and a boy and takes in between $90 and $100 a day.

With regard to the number of employees, the oil industry holds fifteenth place among retail businesses in Chicago, as shown in Table 7. Of the 3,351 employees, 2,242 (66 per cent) sold gasoline and oil. Office employees numbered 513 and there were 596 service employees. Table 8 shows that employees of oil stations in Chicago in 1926 were paid more than the average person who sells in a retail establishment. Salespersons are paid better by 27 different industries but 20 of them at least require specific technical skill and training. Oil station men received $258 a year more than the average salesperson in Chicago.

The sales ability which the oil men of Chicago were able to employ was exceptional. In only 12 other retail lines were sales per individual employee higher than at oil stations, as show in Table 9. This sales ability was reflected also in the selling cost at oil stations generally. The oil industry met its 1926 pay roll in Chicago with 10.9 per cent of its sales and only 17 retail lines did better. (See Table 10.)

Table 8

In the matter of salaries and wages, oil marketers were twenty-seventh in a list of 60 retail businesses in Chicago in 1926, paying $1,964 a year when the general average for Chicago retailers was $1,436.

	Average wage
Brick and tile	$2,850
Ice	2,567
Dairy and eggs	2,465
Cement, lime, plaster	2,435
Optical goods	2,348
Plumbing and heating supplies	2,225
Iron and steel	2,142
Lumber, etc.	2,131
Typewriters and computing mach.	2,030
Fur and fur clothing	1,994
Musical instruments	1,940
Coal and wood—fuel	1,937
Men's clothing	1,932
Office equipment	1,928
Other building material	1,918
Paint, varnish, glass	1,888
Automobile agencies	1,888
Custom tailoring	1,881
Motorcycles and bicycles	1,878
Automobile accessories	1,863
Electrical supplies	1,851
Hay, grain and feed	1,846
Farming implements	1,830
Meats and poultry	1,799
Jewelry	1,768
Bakeries	1,758
Gasoline and oil	1,694

The average annual wage for employees of oil stations shown above is $14 a year higher than the prescribed union wage of filling station men in 1926.

Table 9

In sales per individual employee the Chicago service station ranked 13th in a list of 60 lines of business in 1926.

	Sales per employee
Automobile agencies	$20,730
Brick and tile	17,692
Iron and steel	17,547
Cement, lime, plaster	16,901
Grain and feed	16,368
Lumber, etc.	14,656
Other building material	13,974
Coal and wood—fuel	13,878
Meats and poultry	13,488
Electrical ice equipment	12,982
Men's clothing	12,215
Fur and fur clothing	11,819
Gasoline and oil	11,376

Average sales per employee for all 60 industries was $8,908 in 1926. Average sales per selling employee in the oil business was $23,153 against a general average of $21,101.

Table 10

Pay roll was 10.9 per cent of sales at Chicago oil stations in 1926. Seventeen industries did better and 42 not so well.

	Wages, per cent of sales
Wool and yarn (raw)	1.2
Harness and saddles	4.9
Fish and sea food	4.8
Fruits and vegetables	5.9
Cigars and tobacco	6.0
Coffins and undertakers supplies	6.4
Meats and poultry	7.3
Toys and games	7.5
Electrical ice equipment	7.6
Hay, grain and feed	8.4
Automobiles	8.5
Dry goods and notions	9.2
Grocery and delicatessen	9.6
General stores	10.0
Farming implements	10.0
Arts and antiques	10.1
Confections and soft drinks	10.9
Gasoline and oil	10.9

The average cost of selling was 13.3 per cent in 60 industries. The highest cost was ice at 32.7 per cent of sales and optical goods was second at 29.5 per cent.

Alexander Protests Oil 'Ad' in State Booklet

OIL CITY, Pa., Feb. 3.—Rodney J. Alexander, secretary of the Pennsylvania Grade Crude Oil Association, has protested to Governor Fischer of Pennsylvania against the use of Gulf Refining Co. and United States Chain & Forging Co. advertisements on the cover of the "Primer of the Vehicle Code of the Commonwealth of Pennsylvania", a copy of which was sent to each applicant for a 1928 driver's license.

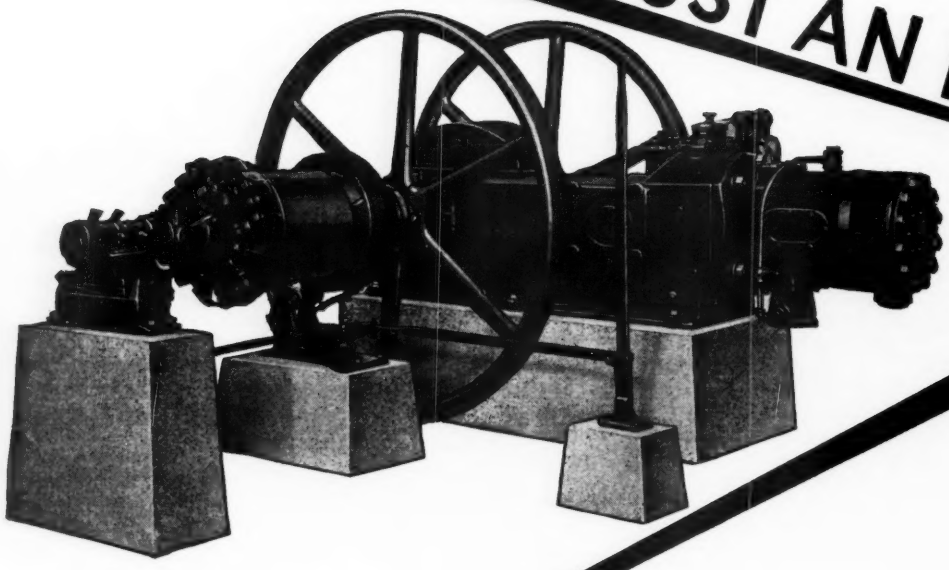
The two companies are Mellon interests and W. L. Mellon is chairman of the Pennsylvania Republican committee, Mr. Alexander pointed out. The state bought 2,500,000 copies of the primers on requisition of Secretary of Highways J. L. Stuart for $31,750.

Mr. Alexander wrote the governor that petroleum is one of the chief natural resources of the state but that the refineries of the Gulf are operating on crude oil other than Pennsylvania. He charged that it was a misuse of a state office to allow advertising of private interests to be issued with a state booklet.

He inclosed a resolution of the crude oil association in which the advertising was condemned.

LOS ANGELES, Feb. 3.—The annual banquet of the Chamber of Mines and Oil of California will be at the Ambassador hotel, Los Angeles, March 8. In effect, the annual banquet is the yearly meeting of the oil industry of California and the attendance is not restricted to the members. An attendance of at least 1000 is expected.

MORE THAN JUST AN ENGINE



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BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Handling Congealing Oils and Paraffin In Salt Creek Field, Wyo.

By F. E. Wood,* H. W. Young** and A. W. Buell**

THIS paper summarizes the results of laboratory tests conducted to determine the properties of the paraffin or rod-wax encountered in the Salt Creek field, Wyoming. It also describes field tests and methods employed to cope with the paraffin problem. The conclusions to be drawn from the laboratory work are:

1. Samples of Salt Creek paraffin range in consistency from soft to hard, the melting points varying from 120 degrees to 156 degrees (Fahrenheit scale on all temperatures given).

2. Masses of soft paraffin are soluble to an appreciable extent in crude oil and its liquid fractions at temperatures somewhat below the melting point of the paraffin. Hard paraffin is very slightly soluble under these conditions.

3. Agitation apparently increases the amount of paraffin which will go into solution.

4. Paraffin congeals from solutions upon cooling to the point of saturation, which is in all cases below the melting point of the paraffin.

5. Crude oil is the most effective of all the solvents for holding paraffin in solution.

6. Pressure alone does not appreciably affect the solubility of paraffin in crude oil nor does it aid materially in holding paraffin in solution when the temperature is reduced.

7. Natural gas in solution under pressure does not appreciably increase the solubility of paraffin in crude oil, but is effective in holding paraffin in solution when the temperature is reduced.

8. A foreign body introduced into a solution of paraffin in oil is immediately coated with paraffin if the temperature of the solution is at or below the melting point of the paraffin, and the object is considerably cooler than the solution.

In this paper we have stated that paraffin is taken into solution. This may be a questionable use of the term, as it is possible that the paraffin may be in suspension rather than in solution.

The object of the laboratory investigation was to determine the conditions favorable for dissolving paraffin and for preventing its deposition from crude oil.

As noted in the first conclusion samples of Salt Creek paraffin were found to grade from soft to hard. Soft paraffin contains a considerable amount of oil whereas hard paraffin has suffered loss of oil by evaporation and drainage.

Compact masses of paraffin grading from soft to hard were placed in beakers containing gasoline, kerosene, naphtha, crude oil, and mixtures of these liquids, and maintained at temperatures varying from 50 degrees to the melting points of the paraffin for intervals varying from 1 to 24 hours. The amount passing into solution was measured by weighing the samples before and after treatment. Below 100 degrees no measurable solution occurred. Above that temperature the soft paraffins began to dissolve to some extent, and were appreciably soluble at temperatures somewhat below their melting points. No weighings were made in tests in which the temperature exceeded 100 degrees as the masses of paraffin softened and in part disintegrated. The samples of hard paraffin did not disintegrate and dissolve appreciably except at temperatures only slightly below their melting points.

No quantitative tests were made to determine the effect of agitation. Agitation would undoubtedly increase the tendency of the masses of paraffin to disintegrate, thus exposing more surface to the solvent.

A series of solutions containing 5, 10, 15 and 25 per cent by weight of paraffin in crude oil were prepared by heating to temperatures above the melting point of the paraffin and allowed to cool. At 100 degrees practically all of the 25 per cent solution and over 40 per cent of 15 per cent solution had congealed. At this temperature there was only a slight deposition in the 10 per cent solution and none in the 5 per cent solution. Dropping the temperature to 60 degrees increased the deposition somewhat in the 10 per cent solution and caused a slight deposition in the 5 per cent solution. Parallel tests with the other solvents proved that these were not nearly as effective as crude oil for holding paraffin in solution.

TESTS were made to determine the effect of mechanically applied pressure upon the solubility of paraffin in oil and also the effect on the capability of the oil for retaining the paraffin in solution. A ball of paraffin was introduced into crude oil and a pressure of 250 pounds applied. After standing under pressure at 100 degrees for several hours the paraffin ball was removed and found to have lost no weight.

A series of oil samples containing 5, 10, 15 and 25 per cent of paraffin were prepared and a pressure of 250 pounds applied to all except the latter, which congealed too rapidly to permit its being introduced into the pressure apparatus. The container filled with the sample, was so placed that it could be emptied without reducing the pressure, by inverting the apparatus. The apparatus was cooled to 100 degrees, inverted, opened, and the amount of congealed paraffin remaining in the container was found to be the same as in the corresponding tests at atmospheric pressure.

Other experiments were performed to determine the effect of natural gas dissolved in oil under pressure on the solubility of paraffin. A ball of paraffin was placed in oil saturated with gas at a pressure of 160 pounds and maintained for several hours at a temperature of 100 degrees. The paraffin ball, upon removal, showed no loss in weight, indicating that no solution had occurred.

ANOTHER series of oil samples containing 5, 10, 15 and 25 per cent of paraffin were prepared. These were saturated with gas at a pressure of 160 pounds while heated to a temperature sufficiently high to insure that all paraffin was in solution. The beaker containing the solution was held in such a way that the apparatus could be shaken to facilitate the absorption of the gas without emptying the beaker. The solutions were then cooled to 100 degrees and permitted to stand under pressure for several hours. The apparatus was inverted to permit the uncongealed solution to flow from the beaker while saturated with gas under pressure. Upon opening the apparatus it was found that the 5 per cent and 10 per cent samples showed no deposition of paraffin in the beaker, while the 15 per cent sample showed only a very light deposition. The 25 per cent solution showed only a light deposition and did not solidify until most of the dissolved gas had escaped. Comparing these results with those in which no dissolved gas was present proves conclusively that dissolved gas aids in holding paraffin in solution.

An interesting feature brought out in these experiments was that any foreign body, as a thermometer,

*Petroleum Engineer, Midwest Refining Co., Casper.
**Research Engineers, Midwest Refining Co., Casper.

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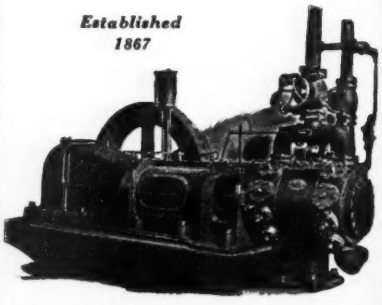

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glass rod, or a piece of pipe, if at a temperature considerably lower than the oil, was immediately coated with paraffin when introduced into the oil samples containing the higher percentages of paraffin, provided the temperature of the oil was not higher than the melting point of the paraffin. This property, together with the loss of gas from solution, helps to explain the deposition of paraffin in tubing, flow lines, etc.

IN THE Salt Creek field various tests and methods have been tried to relieve paraffin deposition in oil wells and flow lines. The zone of maximum paraffin deposition, which was at first in the surface lines at a distance from the well has since migrated to the casinghead, down the tubing, and is now below the standing valve and may even be in the surrounding sands.

1. Steam and gas in surface lines: In the early productive life of the Salt Creek field flow lines were cleaned throughout the year by steaming them or applying high pressure gas. Recently this method has been used only during the colder months.

2. Paraffin hooks: A swab or paraffin hook has been used to clean casing or tubing. This method is discussed in detail in a paper by Reistle.[1]

3. High pressure pops: Pops releasing at 75 pounds were placed on the flow lines at the tank batteries in certain districts during the period of heavy deposition of paraffin in these lines. The greatly reduced deposition under these conditions was undoubtedly due to the paraffin being held in solution by the increased amount of gas in solution in the oil.

4. Electric heaters: Electric heaters have been tried in certain wells. It has been found that in wells producing 30 barrels or more per day there has been no appreciable increase in production whereas in some of the smaller wells increases varying from 50 per cent to 800 per cent have been reported. Since this work is still in the experimental stage it can not be definitely stated that the increase has been due to the removal of paraffin from the face of the sand, as it may have resulted from the reduction in viscosity of the oil due to increase in temperature. Electric heaters have been described by Peake and Prior[2] and by Reistle.[3]

5. Steaming: Experiments were conducted to determine the effect of steaming wells at high temperatures and pressures. Steam was introduced into the well from a Baker boiler capable of delivering steam to the casinghead at 1000 pounds pressure and 1100 degrees. The wells were tubed with a regular pump string and the steam was introduced through a ¾-inch line within an auxiliary 2-inch string which served as a heat insulator. The lower end of the ¾-inch tubing was plugged, with perforations immediately above to direct the steam against the walls of the well. Oil, condensed steam, sand, and basic sediment were pumped from the well while steaming was in progress. The steam was delivered at the casinghead for 8 to 16 hours at pressures varying from 700 to 1000 pounds and temperatures varying from 700 degrees to 1100 degrees. Maximum thermometers and sealed glass tubes containing salts of known melting points were placed near the bottom of the pumping string. The temperature of the pumped fluid at the casinghead was recorded during steaming and was found to approximate 200 degrees. The temperatures at the bottom of the hole averaged 200 degrees to 220 degrees. This process has proven more adaptable to wells suffering from mud conditions than those which appeared to have paraffin trouble.

6. Thermit: Thermit shots were employed on a number of wells with no apparent increase in production, with one exception. Thermit consists of an intimate mixture of powdered aluminum and ferric oxide, which, when ignited, form aluminum oxide and metallic iron, the temperature of the reaction being approximately 5000 degrees. The method of handling the shot is similar to that used in shooting with nitro-glycerin. The temperature at the bottom of the well was increased to only 120 degrees, which was not sufficient to melt the paraffin.

7. Hot water: Forty barrels of boiling water were introdudced into the casing of a well. In dropping from the surface to a depth of 1900 feet the water cooled to 114 degrees, indicating that boiling water cannot be introduced at the surface and reach the sand at a temperature sufficiently high to melt paraffin. By circulating hot water the temperature at the sand might be raised to the melting point of the paraffin.

8. High pressure gas: Experiments have been conducted with gas under 200 to 300 pounds pressure. This gas was introduced through the tubing and returned through the casing. While a considerable amount of material was blown from the well there is no record of any increase in production as a result of this treatment.

9. Reflux gasoline: Before the laboratory work on paraffin was completed a non-commercial grade of very highly volatile gasoline from the weathering plant at the Midwest Gas Plant was introduced into the wells between the casing and tubing. No

1. U. S. Bureau of Mines report of Investigations, Serial No. 2802.

2. Electrification of the Salt Creek Field, A. I. M. E., 1927.

3. Technical Publication, No. 36, A. I. M. E., 1927.

increase in production followed this treatment. After the laboratory work was completed this practice was discontinued, as it was established that gasoline at ordinary temperatures, would not dissolve a sufficient quantity of paraffin to be of any practical value.

In summing up the results of the experiments outlined above the electric heater has proven the most effective in increasing oil production. It cannot be said, however, that experiments which have been unsuccessful in the Salt Creek field will not alleviate troublesome conditions in other fields.

Skelly Enters Aircraft Manufacturing

TULSA, Feb. 3.—The interest which oil men are taking in aviation was shown last week by the announcement of the formation of the Spartan Aircraft Co. Inc. with W. G. Skelly, president of the Skelly Oil Co. as chairman of the board of directors. The new company, a Delaware corporation capitalized at $1,000,000, has acquired the assets of the Mid-Continent Aircraft Corp. and will manufacture in Tulsa the Spartan plane designed by Willis C. Brown, well known pilot and aviation engineer, who is president of the new company. The plane, said by experts to have an unusually high safety factor, is now powered by the Ryan-Siemans engine.

Directors of the Spartan company, in addition to Mr. Skelly and Mr. Brown, include C. C. Herndon, vice-president Skelly Oil Co., W. H. Horster, building contractor, J. F. Nagle, sales manager Skelly Oil Co., Emby Kaye, superintendent of the natural gasoline department of the Skelly Oil Co., Glenn Condon, director of public relations of the Skelly Oil Co., who will act as advertising manager of the Spartan company, and A. K. Longren, factory superintendent of the Spartan Aircraft Co. The company intends to manufacture both closed and open models of commercial planes.

O'Neil To California

GREAT FALLS, Mont., Feb. 3.—Louis B. (Tip) O'Neil, vice-president of the California Petroleum Corp., will move to Los Angeles March 1 to assume charge of the company's land department. He has been in charge of the Montana division since the California Petroleum purchased the production and refinery in Montana from the O'Neil brothers.

John O'Neil, who after the sale of the properties continued in charge of the refinery, resigned on Jan. 1.

L. B. O'Neil is succeeded at Great Falls by G. S. Frary.

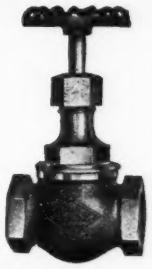

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Fig. 108
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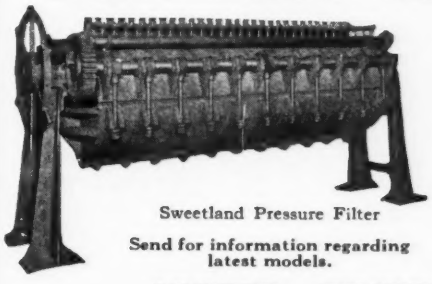

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No Fraud Committed by The Texas Co. Or Adams, Special Master Finds

By Paul Truesdell
N. P. N. STAFF WRITER

CLEVELAND, Feb. 3

NO FRAUD was committed either by Joseph H. Adams or by The Texas Co. or by its attorneys or officers in obtaining the Adams patents upon which the Holmes-Manley cracking process is based. This is the finding of Special Master Charles Martindale in the suit brought by the government against the Patent Club.

The government had charged that certain of Adams' patents were allowed by the patent office because the patent examiners were deceived by false affidavits procured and filed by Adams to support his contentions. One of the challenged affidavits, the special master quoted patent office records to show, was not considered at all by the examiners.

The other affidavits attacked the special master found to be true, and the later testimony by the makers, repudiating their affidavits, to be false. This wipes off the slate probably the most serious of the charges brought by the government against the owners of cracking process patents, provided the master's report is accepted by the court.

The master discusses the Adams case as follows:

"Joseph H. Adams a citizen of the United States and a resident of Brooklyn, N. Y. on Dec. 1, 1909, lodged in the patent office of the United States a petition, specification and oath constituting Application Serial Number 530,852 (Series of 1900) which application, after a somewhat stormy career, ripened into patent No. 1,320,354 being issued to Joseph H. Adams assignor to The Texas Co., Oct. 28, 1919.

"The patent is for an oil converting apparatus of the nature disclosed and comprising the elements set forth in 28 claims. The heater described and claimed specifically is an electrode inside of the oil chamber around which the oil to be converted must pass and which, when raised to the point of incandescence by a sufficient electric current, vaporizes the oil which is raised to a cracking temperature.

"The controversy revolves about the claims for means for continuously forcing oil into the heated chamber under pressure, 'a condenser in free communication with said chamber and means for maintaining pressure in said apparatus to and through the condenser.'

"Under date of Feb. 29, 1916, applicant cancelled all of the original claims and substituted new claims to the number of 33. These new claims more clearly and specifically present the applicant's claim to the combination of means for forcing the oil under pressure from the source of supply into the cracking chamber, means for maintaining a vapor pressure upon the oil in the cracking chamber while being subjected to a temperature sufficient to vaporize the oil; and a condenser in free communication with the cracking chamber and a pressure producing valve beyond the condenser.

THE examiner rejected the amendments and a new drawing attached thereto, on the ground that they covered new matter which was not disclosed in the original application.

"In response to the foregoing action, on July 18, 1916, the applicant referred to the statements of the examiner that in his original application the applicant had not disclosed pressure, that his last amendment to claim a pressure valve beyond the condenser would operate to cover up the work of subsequent investigators and hold them as infringers of his patent.

An order to disabuse the examiner's mind of such erroneous impression and to prove 'as a matter of fact' applicant knew the advantages of condensing under pressure and had actually performed the operation repeatedly and successfully prior to the filling of the present application and long prior to 'the work of subsequent investigators' referred to by the examiner he filed the affidavits which are the subject of attack by the petitioner in this case, and which it avers were false and fraudulent and wrongfully induced the Government to issue the patent No. 1,320,354. The affidavits are those of (1) Joseph H. Adams, (2) Austin Adams, (3) Charles E. Donlen, (4) William F. Besselman, (5) William J. Hancock. Of these five affidavits, the petitioner in this cause attacked only one—that of William F. Besselman.

"Whether Besselman's affidavit was true or false will be later considered herein. For the present the master is dealing with the then pending issue between the applicant and the patent office, and what effect, if any, this group of affidavits, had, or could have, upon the determination by the patent office, of the then pending issue. An examination of so much of the record as has already been cited, shows conclusively that the issue then before the patent office for determination was whether the applicant in his original specification disclosed means for condensation under pressure.

"The examiner in his office letter of March 22, 1916, said:

"'THIS application was filed on Dec. 1, 1909, and it is noteworthy that it was not until the amendment of Sept. 14, 1915, (which has been canceled by the last amendment) did applicant's case contain any suggestion involving condensation under pressure. There were, to be sure, some hints about having pressure in the still.

"'It is significant that in the mean-

The Fleming Process

ONE part of the report of Special Master Martindale in the suit brought by the government against members of the Patent Club dealt with the fate of the Richard Fleming Co. and the Fleming cracking process. It was charged in the government's petition that one of the elements in the alleged conspiracy of the Patent Club members to restrain trade was the suppression of the Fleming cracking process of which Richard Fleming was the inventor, in favor of the Cross and other cracking processes owned by the defendants.

This phase of the case as discussed by the special master in his report will be published in an early issue of NATIONAL PETROLEUM NEWS.

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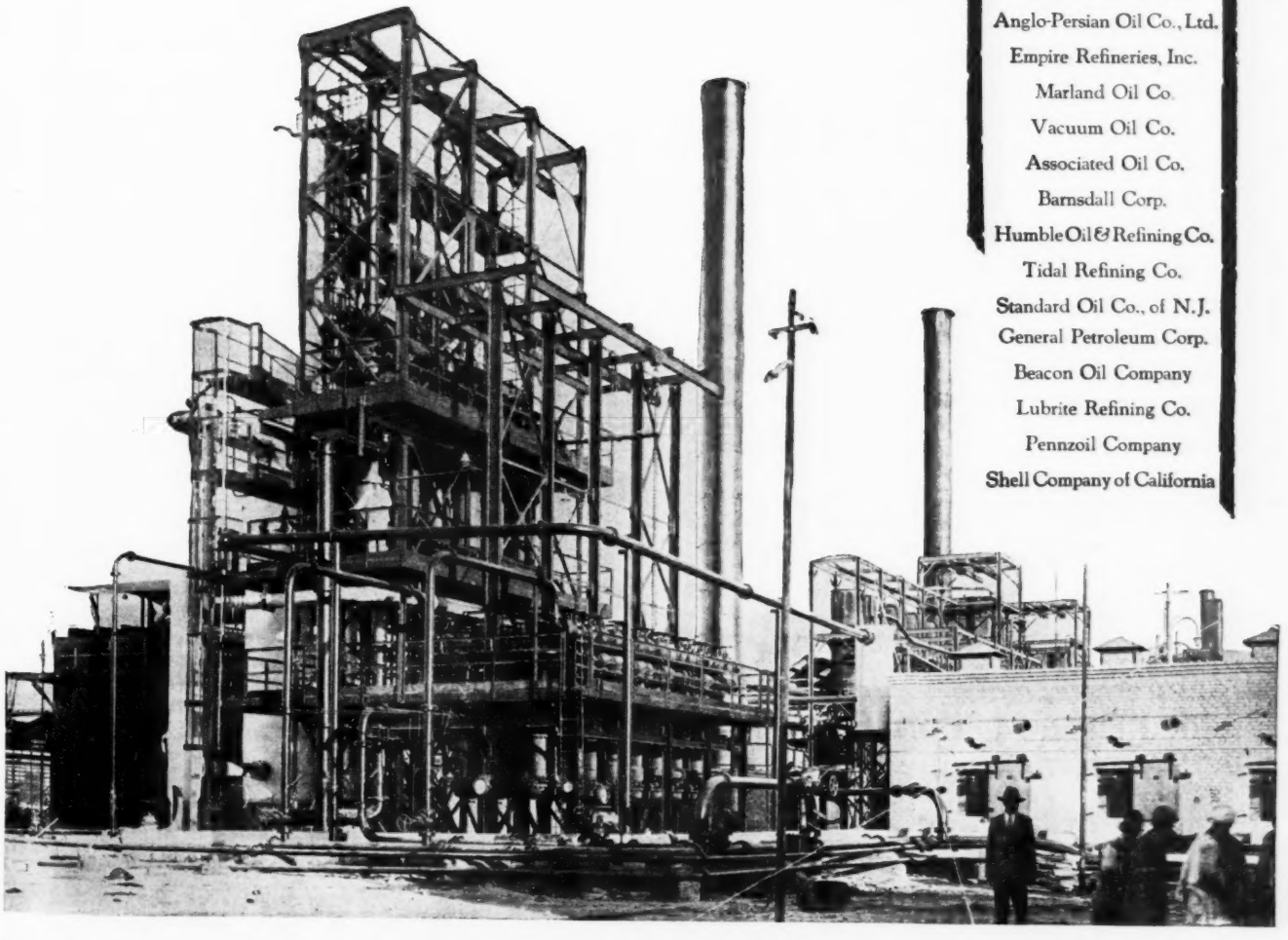

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time others had pointed out that it does make considerable difference whether a valve used to develop pressure in a still is located between the still and condenser or beyond the condenser. It thus becomes of great importance in this case to ascertain whether there is any basis for the present claims which claim specifically a pressure producing valve beyond the condenser.'

"THE examiner based his rejection, as above stated, on the ground that there was no such showing in the original specification and drawings. On Oct. 21, 1916, the examiner said:

"'This case as amended Oct. 27, has been considered.

"'The mass of affidavits filed by applicant has not been considered for the reason that, according to applicant's statement, they are filed for the purpose of showing that "the applicant knew the advantages of condensing under pressure and had actually performed the operation repeatedly and successfully prior to the filing of the present applicant and long prior to the work of subsequent investigators."

"'The examiner did not intend to imply, in the quotation applicant has made from his letter, that applicant had obtained his knowledge of the advantages derived from having pressure on the condenser from other investigators. Whatever the source of the knowledge it is wholly immaterial what applicant knew, unless that knowledge was set forth in the specification of this application when filed; and it is equally immaterial what process he had carried out prior to the filing of the application, unless such processes are set forth in the specification. The law on this point is too well settled to attempt of its being questioned.

"'Since, as stated, the affidavits are filed for the purpose of substantiating a point which is wholly irrelevant to the subject of applicant's right to make the claims, they are not considered.'

"Thereupon applicant (Adams) on Dec. 29, 1916, appealed to the examiners in chief from the action of the primary examiner dated March 22, 1916.

The finding of the board of examiners in chief is expressed on Page 3067 of the Exhibit Book, as follows:

"'Under these circumstances, it is held that there is sufficient foundation in the case as originally filed to support the claims rejected on the ground of new matter.'

"And the final decision was:

'The final rejection of Claims 12, 19, 20 and 27 is affirmed. The final rejection of the other claims is reversed.'

"It does not appear that the group of affidavits was considered by the board of examiners, and they could not have been considered in deciding the question before the board of examiners in chief which was as to the sufficiency of the disclosure in the original specification, which had to be, and was, decided solely from an examination of that document.

"It therefore appears indubitably that Adams' patent No. 1,320,354 was not obtained through fraud, deception and misrepresentation made to the patent officer or by means of fraudulent and deceptive affidavits and statements.

"The affidavit of William F. Besselman was not considered by the patent office for any purpose in connection with the granting of that patent, and had no influence of any kind upon the patent office in making the grant.

"IT APPEARS in evidence in this cause, that a suit was brought and is still pending in the United States District Court at Kansas City by the Universal Oil Co. against Standard Oil Co. of Indiana; that the suit was based on Dubbs' patent No. 1,123,502 Jan. 5, 1915, for infringement thereof.

"That the defendant had pleaded therein the prior invention reduction to practice and use of the invention described and claimed in the two patents of Adams herein under attack. That the plaintiff in that case had used Besselman, Turvey, Klaus, O'Brien and others as witnesses to prove that Adams had obtained his patents by false affidavits, being the affidavits of Besselman, Klaus and Turvey.

"It appears in the record that all of these witnesses except O'Brien admit that they were paid for their testimony at Kansas City by the plaintiff or persons representing it in the Kansas City suit and that Besselman was in consultation with one Kerr, an attorney for the Universal Oil Products Co., or Dubbs, immediately before his appearance upon the witness stand in his case.

"Besselman undertakes to say that he was not sworn to the affidavit above referred to; that he did not know that it was an affidavit; that it was not read over to him; that he did not know the contents thereof; that the statements in the affidavit, severally and categorically, are false. Mrs. Hoxie (who was Miss Agnes Capstick and who witnessed his signature) testified that he was sworn to it; that he was asked if he had read it over and knew the contents of it, and he had answered that he did; that she saw him sign it and witnessed his signature.

"CONFRONTED by his statement in his testimony at Kansas City that he knew it was an affidavit, he undertook to swear that the testimony he gave in Kansas City in that particular and in several other particulars was false. By a clear preponderance of the evidence and by evidence of disinterested witnesses, it appears that the apparatus which Adams took from his laboratory in Brooklyn to the plant of the Valvoline Oil Works at Edgewater, New Jersey, was such as was described in Besselman's affidavit and was constructed and used before April, 1908.

"The burden assumed by Besselman of falsifying at least three oaths in regard to the matters here under inquiry is too great.

"From a consideration of all of the evidence the master believes and so finds that the affidavit of Besselman on May 10, 1916, was signed and sworn to by him; that at the time he knew the contents thereof; that the statements contained therein were true; and that his testimony in this case was false, and that the government has failed in its contention that letters patent to Joseph H. Adams No. 1,320,354, granted Oct. 28, 1919, on application Serial Number 530,852, filed Dec. 1909, were obtained by means of fraudulent and deceptive affidavits and statements.

Adams lodges in the patent office on Dec. 31, 1909, his petition, specification, oath and drawings constituting his application, which was given Serial Number 535,879, for the invention described and claimed in his letters patent No. 1,327,263, granted Jan. 6, 1920.

"On March 8, 1910, the primary examiner (who was the same primary

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examiner with whom Adams had such a severe struggle to obtain his patent No. 1,320,354) rejected all the claims on the following references: Seigle, 657,751, Sept. 15, 1896; Benton, 342,564, May 25, 1896; Nikiforoff, 755,309, March 22, 1903; Warden, 112,751, March 14, 1871; van der Weyde, 125,633, April 9, 1872.

"Applicant made no response to the office action until by letter of March 8, 1911, he requested an extension of 60 days until May 8, 1911. The examiner under date of March 14, 1911, replied that the application had become abandoned by failure to respond within one year to the office action of March 8, 1910.

"ON MARCH 30, 1911, Adams refiled his application, which took Serial Number 618,011, renumbered as Application No. 289,455 which matured into Letters Patent No. 1,327,263.

"On May 2, 1911, the examiner rejected all the claims upon citation of applicant's Patent Number 976,-975, Nov. 29, 1910, 'in view of the following patents: Seigle, 567,751, September 15, 1896; Benton, 342,564, May 25, 1886; O'Neal 754,687, March 15, 1904; Patison, 569 of 1873 (British).'

"Applicant then filed a completely new specification and claims, and the examiner, on Sept. 20, 1913, declined to enter the substitute specification but did enter the amendments into the original claims and repeated the rejection.

"On March 4, 1916, the applicant amended his specifications and Claims 1, 2, 3, 4, 5, 6, 9, 10, cancelled Claims 7, 11, 12, 13 and 14, renumbered the remaining claims and filed new claims numbered 10, 11, 12, 13, 14, 15 and 16. Thereupon the examiner April 12, 1916, stated:

"'In considering the claims in this case, the point which stands out most conspicuously in the whole case, is the fact that as filed applicant did not regard the use of pressure beyond the condenser as a matter of any moment. He might use pressure or he might use vacuum, and apparently there was no particular point in the use of pressure in any given case.'

"The examiner then said: 'As now presented applicant makes pressure all important, but even now there is nothing at all definite as to the pressure.'

"On this point he cited Dubbs No. 1,123,502 granted on an application filed Nov. 20, 1909, and said:

"'The claims are all rejected, and the rejection is made final.'

"On November 10, 1916, Adams tendered a new claim No. 17 and at the same time tendered the affidavits by Joseph H. Adams, Austin Adams, Joseph A. Klaus, William J. Hancock, George Hiers, Joseph Turvey and J. I. C. Clark. He said:

These affidavits are filed for

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two purposes, one is to show that the applicant made the invention before Dubbs filed his application on Nov. 20, 1909, and that therefore Dubbs could not be considered a valid reference even if he disclosed the invention. Second, to rebut the adverse inference which the examiner has indicated that he has drawn from the alleged fact that applicant's claims now before the office were not made until after disclosure of their subject-matter by other patentees.'

"This set of affidavits contains the affidavit of Joseph A. Klaus, and the affidavit of Joseph Turvey on which the petitioner in this cause grounds its charge that Adams patent No. 1,327,263, into which this application ripened, was obtained by fraud upon the patent office. (The question of the truth of falsity of the affidavits of Klaus and Turvey will be hereafter separately considered).

"On Dec. 9, 1916, the examiner notified applicant that the affidavits filed Nov. 27, 1916, had been received and made a part of the record. That he had referred the affidavits to the law examiner for his opinion on the sufficiency thereof. He quoted the report of the law examiner holding that the affidavits were not sufficient to overcome Dubbs, and that the application being under final rejection the case was not open to the admission of affidavits.

"Upon consideration of the record, on or about Aug. 19, 1914, Adams had entered into a contract with The Texas Co. to demonstrate his process. In this contract Texas acquired an option to secure from Adams the exclusive rights in and licenses for the use of the so-called Adams process, and any collateral inventions made by him within the United States, relating to such process.

"UPON consideration of the record, the special master finds that the commissioner of patents was not induced to grant to said Adams, assignor to The Texas Co., United States Letters Patent No. 1,327,263, by means of false, misleading and deceptive affidavits, towit: those of Joseph Klaus, Albert J. Hiers, Joseph H. Adams, Joseph Turvey, William J. Hancock, Austin Adams, Clark E. Donlen, and William M. Besselman, and the commissioner of patents was not induced to grant to said Adams and the defendant, The Texas Co., Letters Patents of the United States, Nos. 1,320,726, 1,320,727, 1,428,311, 1,428,312, 1,433,519, 1,445,281, 1,455,376, 1,455,377, 1,461,017, 1,462,677, 1,462,078, 1,477,860, 1,506,877, 1,506,878, by means of false, misleading and deceptive statements in the affidavit aforesaid.

"The Special Master finds that the allegation in said affidavits aforesaid, so far as they averred 'that said Joseph H. Adams had distilled and cracked heavy hydrocarbon oils under self generated, superatmospheric, vapor pressures to produce gasoline and had condensed the evolved vapors under pressure; that he did this prior to the filing date of a patent cited against his claim (towit: patent to Jesse A. Dubbs, No. 1,123,502, granted Jan. 5, 1915 on an application filed Nov. 20, 1909) were true.

"The special master finds that the affidavits of Joseph Klaus, Joseph Turvey, and William M. Besselman, filed in the Patent Office of the United States in connection with the prosecution of Adams' application for patents Nos. 1,320,354, and 1,327,263, were not obtained by said Adams by means of deceit and misrepresentation practiced upon said affiants or either of them by said Joseph H. Adams.

"The master further finds that at the time The Texas Co. negotiated and entered into the agreement for the purchase, from Joseph H. Adams, for a valuable consideration, all of his inventions, applications for letters patent, and letters patent, relating to the treatment of higher boiling hydrocarbons, to convert the same into lower boiling hydrocarbon products or derivatives, said defendant, The Texas Co., its officers, agents and attorney, had not notice or knowledge of any claim or assertion of any person that any of said affidavits were not true, and were fully justified in believing them to be true, as they were in fact."

Newspaper Men Buy Oil Stations

EDWARDSVILLE, Ill., Feb. 3.—The Service Oil Co., which opened a filling station here last fall, has just purchased two additional filling stations near Edwardsville from the Sinclair Refining Co. The stations will have carload storage and tank wagons will be operated.

Marland high compression gasoline and White Rose gasoline of the National Refining Co., as well as the latter's motor oil, En-Ar-Co, will be handled.

Harry F. Palmer, advertising manager of *"The Intelligencer"* here, will manage the stations. He was formerly owner and manager of the Quality Oil Co., which was sold about 18 months ago.

James F. Broderick, who is vice president and mechanical superintendent of *"The Intelligencer"*, is the other owner of the stations.

Also Rebuilds Machine Shop

LOS ANGELES, Feb. 3.—The Alco Oil Tool Co. is practically rebuilding its machine shop at Compton. The main machine shop, 60 x 192 feet, will be completed by Feb. 1, and in front of the main machine shop, a two story stucco office building, 60 x 28 feet will be erected at once. The company owns about two acres and when the construction program is completed, more than half of the tract will be in use.

Nozzle
Tank Bracing
Capacities
30-45-60 Gallons
10"-11½"-13" Wide
Model
657
HIGH BOY
60 gal.; tank 13" x 29" x 38" — and doesn't bulge; overall height 57¾" with Standard Bennett Blind Pump and "Seal-O-Matic" Nozzle; lockable cast fill-opening cover which stands vertical when open; return-drain gauge stick readable at all times and with shield that keeps rain and dust from gauge slot. Other sizes—45 gal., 11½" wide; 30 gal., 10" wide—with visible or blind pumps, with or without self-closing return drain arm.
BATTERIES THAT FIT LIKE STEEL FILES
To Prevent BULGING Have—
HIGHBOY

Our Industry — A Page of Facts and Personalities

National Petroleum News

By Paul Wagner

JOHN V. McMAHON, who was successively a vice president of the Gypsy Oil Co., at Tulsa, and the Sinclair Oil & Gas Co., at Fort Worth, before engaging in business for himself, is spending a few weeks on the Pacific coast. Mr. McMahon, who now calls New York home, stopped in Tulsa a few days on his way to California.

* * *

A. F. MELCHER, who recently resigned from the research organization of the Marland Oil Co., at Ponca City, plans to engage in consulting work, probably at Tulsa. Mr. Melcher was for years engaged in studies of sand porosities in the Appalachian region for technical agencies of the government before his connection with the Marland organization.

* * *

HENRY BROWN, treasurer of the Continental Supply Co., with St. Louis headquarters, has been spending most of his time the last few weeks going over southwestern territory in which district bases and stores are located.

* * *

A NEW type of service to oil companies is being furnished by Robert Barling and Robert Muldrow, who are making headquarters at Midland, Texas. They have organized the Southwest Elevation Co., which undertakes to furnish elevations data on wells and areas in the Permian salt basin development territory.

* * *

THE Ray-Dawes Drilling Co., recently incorporated at Shreveport, includes in its official personnel Walter G. Ray as president; W. C. Woolf as vice president and E. C. Dawes as secretary-treasurer.

* * *

FREDERICK B. PLUMMER of Fort Worth, formerly identified with the geological staff of the Amerada Petroleum Corp., is now retained by the Vacuum Oil Co., in a consulting capacity.

* * *

NELSON B. POTTER, formerly of the geological staff of the Tidal Oil Co., at Tulsa, is now with the Indian Territory Illuminating Oil Co., with Bartlesville headquarters.

E. R. (DEAC.) PARSONS

E. R. (Deac) PARSONS, formerly chief scout of the Marland Oil Co. of Oklahoma, has been transferred to the land department at Ponca City headquarters and made assistant to M. B. Fountain. Mr. Fountain was recently appointed head of the land department, succeeeding Charles F. Martin, resigned. O. A. Ford, formerly Shawnee district scout for Marland, succeeds Parsons as chief scout.

* * *

WHEN Albert E. Humphreys, Jr., Denver, found it necessary to reach Washington quickly at the end of January, he hopped off from Houston in a special Fokker airplane. He was accompanied by Mrs. Humphreys. The necessity for the trip developed on one of Mr. Humphreys' periodical trips to south Texas, where he was looking after affairs of the Humphreys Corp., having succeeded the late Albert E. Humphreys, Sr., as president, last year.

* * *

OFFICERS of the Houston Geological Society for 1928 include Frank W. DeWolf, formerly state geologist of Illinois and more recently vice president and general manager of the Louisiana Land & Exploration Co., president; Mrs. John F. Weinzerl, nee Laura Lee Lane, consulting paleontologist, vice president; Marcus A. Hanna, Gulf Production Co., secretary-treasurer.

THE Purchasing Agents Association of Tampico has elected Robert Abbott of the Huasteca Petroleum Co., as president; Charles L. Brownmiller, Cortez-Aguda (Atlantic Refining Co.) interests, vice president; A. E. Clark, Mexican Gulf Oil Co., secretary; and E. Niven, The Texas Co. of Mexico, S. A., treasurer.

* * *

W. E. WRATHER, consulting geologist of Dallas, announces removal of his residence and office from 604 Bryan Parkway to 4300 Overhill Drive. Mr. Wrather recently returned to Dallas after an extended trip to California on business.

* * *

G. C. GESTER, chief geologist of the Standard Oil Co. of California and now president of the American Association of Petroleum Geologists, has returned to San Francisco after a Mid-Continent trip. When in Fort Worth, late in January, he was entertained at a luncheon given by J. Elmer Thomas, consulting geologist, for Mr. Gester and leading members of the profession.

* * *

I. G. HARMON, production vice president of Marland Oil Co. of Texas, and E. O. Bennett, chief production engineer, have been transferred from Fort Worth to Ponca City, Okla., from which base their operation hereafter will be conducted.

* * *

FRIEND makers, says the Standard Oil Co. of California in its organization periodical "Among Ourselves," comprise every employe of the company. The Standard puts considerable stress on the courtesies to be extended the public by its personnel in acknowledging services reported by grateful citizens.

"Undoubtedly any member of the organization would render a similar service if afforded the opportunity," says the publication in referring to what it calls typical courtesy. Incidents published in "Among Ourselves" are not only for the purpose of giving personal credit but also for setting an example for others, it is explained.

When V. P. Banks of the Spokane Agency loaned his headlights and services to a woman having tire trouble on a dark road he made a lasting friend for the company; when W. J. Kelly, an area salesman, took a half hour to tow a motorist into town at Pleasanton, Calif., another regular customer was clinched; and when L. A. O'Neill, special agent, of McKittrick, Calif., took another employee with him to extinguish a fire in a dwelling house the company again benefited.

The foregoing examples are used simply to illustrate the company's policy of establishing good will. It's a policy worth thinking over.

Serving the Industry with SPEED

HUGHES SELF-CLEANING CONES

Speed in getting the hole down is essential to Drilling Economy.

Since the inception of Hughes "Self-Cleaning" Cones, Operators and Contractors in the Rotary fields throughout the world have been able to cut their drilling costs per well a worthwhile extent.

"Sold by Supply Stores Everywhere"

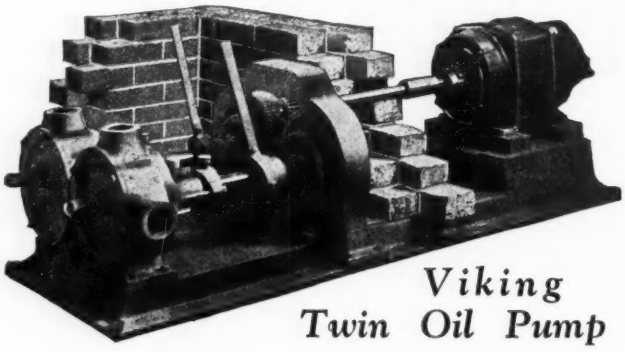
HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
Houston, Texas

Export Office
Woolworth Bldg.
New York City

Speed and Safety In Handling Oils



Viking Twin Oil Pump

The Viking Twin Oil Pump—one of many different types of the Viking Rotary. The Viking Twin will handle two different kinds or grades of oil at the same time. The pumps are mounted on one base, are controlled by individual friction clutches and can be operated separately and independent of each other. Capacities 50-90-200 gallons per minute per pump! Furnished with or without fire wall base. Illustration shows fire wall base—motor on other side of wall, away from possible leakage or evaporation—a valuable safety precaution. Catalog and Special Oil Pump folder of particular interest to oil men sent free—write for them today. Get the Viking Facts.

Viking Pump Co., Cedar Falls, Iowa
Walkerville, Ontario, Canada

VIKING PUMPS

BETHLEHEM
WAX PLANT EQUIPMENT

Filter Presses — *Wax Moulding Presses*
Wax Distillate Chilling Machines — *Scale Wax Cooling Drums*
Wax Testing Presses — *Paraffine Wax Sweater Plants*
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers and other Oil Refinery Equipment
Oil Burning Systems — *Complete Power Plant Equipment*

BETHLEHEM STEEL COMPANY, *General Offices, Bethlehem, Pa.*
District Offices
New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo Cleveland Detroit Cincinnati Chicago St. Louis San Francisco Los Angeles Seattle Portland

New Patents

Jan. 17

REFINING

Heat-Exchange Apparatus—Gustaf Olof Wolfgang Heijkenskjold, Lidingo-Brevik, Sweden. Filed May 28, 1923. No. 1,656,790.

Process and Apparatus for Liquid Purification of Fuel Gases—Frederick W. Sperr, Jr., and David L. Jacobson, Pittsburgh, Pa. Filed Aug. 7, 1924. No. 1,656,881.

PRODUCTION

Wire Rope—Thomas Gore, Brooklyn, N. Y. Filed Feb. 12, 1927. No. 1,656,669.

Rotary Core-Drill Attachment—Arthur L. Armentrout and Elwin B. Hall, McKittrick, Calif. Filed Nov. 18, 1925. No. 1,656,809.

Derrick—Arthur J. Leonard, Oil Hill, Kans. assignor to Doherty Research Company, New York, N. Y. Filed Sept. 15, 1923. No. 1,656,861.

Pipe-Holder—John R. Martin, Houston, Tex., assignor to James S. Abercrombie and A. C. Bayless, Houston, Tex. Filed Jan. 7, 1927. No. 1,656,864.

MISCELLANEOUS

Container and Sealing Means Therefor—Richard L. Parish, Chicago, Ill.; assignor to American Flange & Manufacturing Co., Chicago, Ill. Filed May 14, 1927. No. 1,656,229.

Sign—Calvin S. Cosner, Dayton, Ohio, assignor to The Stenpho Company, Dayton, Ohio. Filed Dec. 16, 1925. No. 1,656,265.

Welded Tank—Augustine Davis, Jr., Cincinnati, Ohio. Filed Jan. 22, 1927. No. 1,656,427.

Automatic Control Device for Liquid-Fuel Burners—Charles McManus, Belleville, Ill. Filed June 22, 1925. No. 1,656,443.

Oil Burner—Everett S. Huntington and Arthur O. Higinbotham, Denver, Colo. assignors to General Utilities Company, Denver, Colo. Filed Feb. 11, 1927. No. 1,656,486.

Tank Gauge—George R. Gould, Kansas City, Mo. Filed July 3, 1925. No. 1,656,705.

Oil Burner—Lewis L. Scott, St. Louis, Mo. Filed Mar. 20, 1926. No. 1,656,711.

Valve for Grease Guns—Wesley B. Sibley Detroit, Mich., Assignor to Acme Devices Corporation, Detroit, Mich. Filed Oct. 20, 1926. No. 1,656,763.

Cleaners Approve Specifications

WASHINGTON, Feb. 2.—The cleaners and dyers of the country in their national convention held in Washington last week, approved the work of the technical committee appointed by the National Association of Cleaners and Dyers, in cooperation with the technical men of the Bureau of Standards and the Department of Commerce in agreeing upon specifications for a solvent to be used by the cleaners and dyers. It was in the nature of a pro forma approval because the committee was authorized to do what it did.

C. M. Southard Promoted

CLEVELAND, Feb. 2.—C. M. Southard, who has been district manager for the Roxana Petroleum Corp., with headquarters at Lima, O., Feb. 1 will become assistant distribution manager of the corporation under J. A. Strong with headquarters in the Shell building, St. Louis.

PITTSBURGH (DES MOINES) STEEL TANKS

75 to 26,000 gallons **24" to 126" in diameter**

3'2" to 40'3" in length **$^{3}/_{16}$", $^{1}/_{4}$" and $^{5}/_{16}$" metal**

PDM STANDARD tanks are carried in stock in Pittsburgh, N. Y. City, Philadelphia, Washington, D. C., Cleveland, Detroit, Albany, Rochester, Buffalo, Indianapolis and Milwaukee. Send for specification sheet No. 53

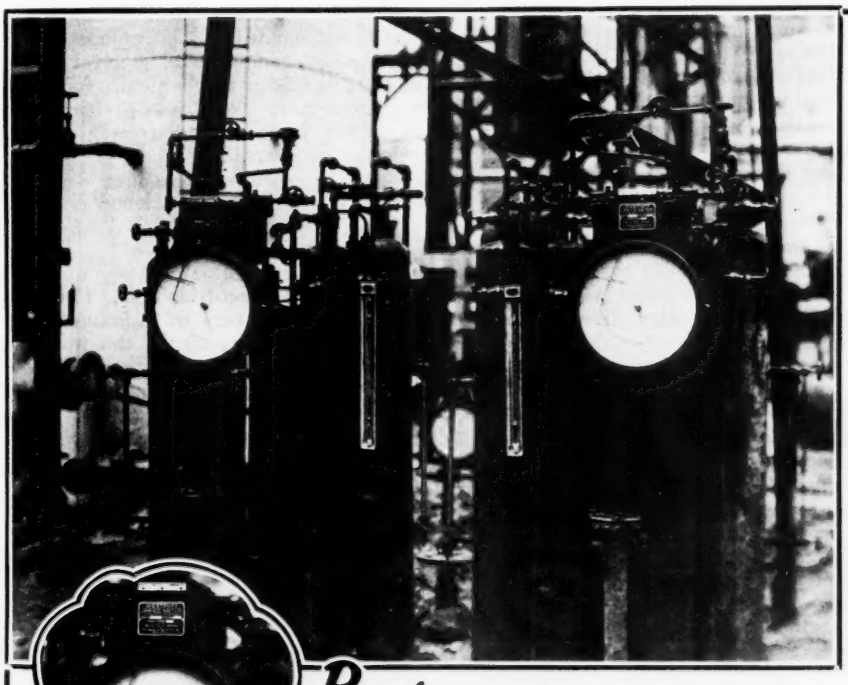
Pittsburgh-Des Moines Steel Company

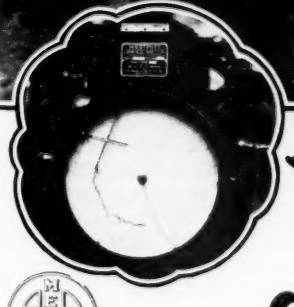
655 Professional Bldg.
Pittsburgh, Pa.

659 Hudson Ter'l Bldg.
N. Y. City

PDM STANDARD
CLOSED TANKS FOR ALL PURPOSES

Atlanta Dallas Des Moines Chicago





Between PUMPS AND ABSORBERS— Accuracy.

METRIC orifice METERS

Metric orifice meters are giving refiners eyes that they may see and records that they may know.

Every modern refining process is capable of checking by orifice meter. And a fair share of the progress from better methods and better results is creditable to these little instruments that have replaced darkness and guess work with vision and accuracy.

The refineries who are setting the pace in progressive practices are developing closer means of checking each step. Since the orifice meter is the most adaptable measuring device for such work, their installation is multiplied by the new uses for which they are constantly being requisitioned.

This view of two orifice meters illustrates a particularly popular use. The installation is at the West Coast Refining Company, Placentia, California. It shows their method of securing accurate determinations of the oil pumped to absorbers. Although the use of the cylinders is unique, the application of the orifice meter to this particular service is typical of the more important refineries.

From the start to finish, orifice meters are established in refineries on their merit for accuracy, adaptability, ease of operation and complete dependability.

Have you been overlooking opportunities where they can help?

WESTCOTT & GREIS, Inc.

Sales Service:
Dallas TULSA Los Angeles

METRIC METAL WORKS
of the American Meter Company, Inc.
ERIE · PENNSYLVANIA · U·S·A

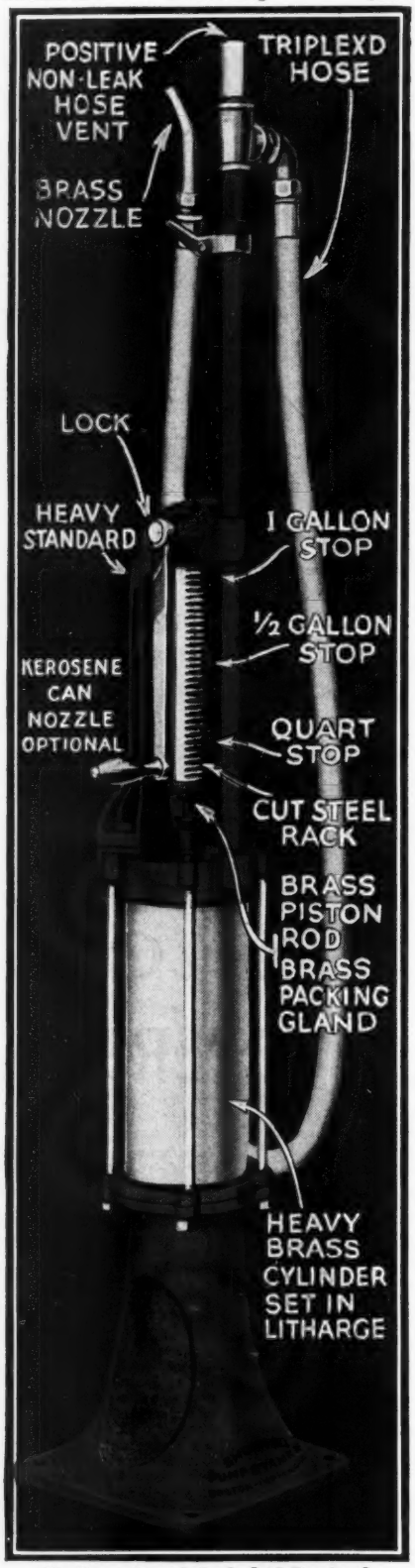
Get Big Gallonage with the Original Famous Shotwell

"LITTLE GIANT"

One-gallon Pumps for Gasoline, Oil or Kerosene

$24.75 In Lots of 4

Special Price Offer
Single Pump — $26
With 200-gal. Tank and Fittings — $45.00



Underwriters' Label if Desired

Send for complete catalog on our Ball-Bearing Pumps

Shotwell Pump & Tank Co.

BOSTON INDIANAPOLIS

New Equipment to Improve Plants

Personal Notes of the Manufacturers

National Petroleum News

Augustine Davis, Jr., president of the Davis Welding & Manufacturing Co., announces a number of radical changes in the manufacture of its light weight tank body. In commenting on these changes, Mr. Davis says:

"In order to emphasize the marked difference in construction, we are giving these features special trade names. They include the new Davistrong 3 and 4 compartment attached bucket box of pressed steel construction and the new Quixeal 6-inch fill cap. Both of these are a radical change from anything heretofore attempted in the construction of truck tank bodies.

"The bucket box is produced on a production basis. Practically all the steel parts of this bucket box are pressed out on large dies, with all parts, including the doors, interchangeable.

"The Davis-Ohio 1 and 1½ ton tank bodies now include pressed steel construction in their Corruflange heads of great strength and light weight, and also their boxprest reinforced pressed steel bolsters.

"Included in this new C-1 tank body is also the Quixeal pressed steel 6-inch fill cap with a larger dome for expansion purposes, light in weight and above all, gasoline tight, quick in action—one-quarter turn of the operating handle on top seals and locks the cover in place. It can also be furnished with or without the static eliminator."

* * *

B. F. Goodrich Rubber Co., Akron, O., has announced the appointment of James D. Tew, first vice president, as head of all sales divisions of the company. Mr. Tew's title will be first vice president and general sales manager. He began with the company in its factory at Akron in 1906 and has since that time held various positions of responsibility, including superintendent of the tire division, assistant works manager, works manager, director, and finally first vice president.

* * *

Staten Island Shipbuilding Co., 90 West St., New York City, which for more than 25 years has been one of the largest builders of commercial ships on the Atlantic coast, has formed a division for the manufacture of heat transfer apparatus, including oil heaters and coolers, evaporators, condensers, humidifiers, boilers, tanks, and so on.

This type of equipment has been made by the company for the past 30 years, but a separate division has not been formed previous to this time. The new division will operate as Heat Transfer Products, Inc., of which William J. Davidson, president of the shipbuilding company and of the Staten Island National Bank & Trust Co., is chairman of the board.

George Y. Jacobs, formerly vice president, Hartford, Conn., has been elected president and general manager.

Other officers are: Sylvan J. Crooker, who has been with the U. S. Bureau of Standards and Bureau of Mines for many years, and chief engineer for the Whitlock Coil Pipe Co., vice president in charge of engineering;

Walter S. Ogilvy, formerly superintendent of the Beach division of the Whitlock Coal Pipe Co., vice president in charge of manufacturing, and secretary;

George H. Bates, treasurer and general manager of the shipbuilding company, treasurer.

The main plant of the company is at Mariners Harbor, Staten Island, New York City.

These additional promotions have just been made by the company: C. E. Cook, promoted to general manager of sales, mechanical, footwear and druggists' sundries division; H. C. Miller to general manager of tire sales, automotive division; L. A. McQueen to general manager of tire sales, dealers and distributors division.

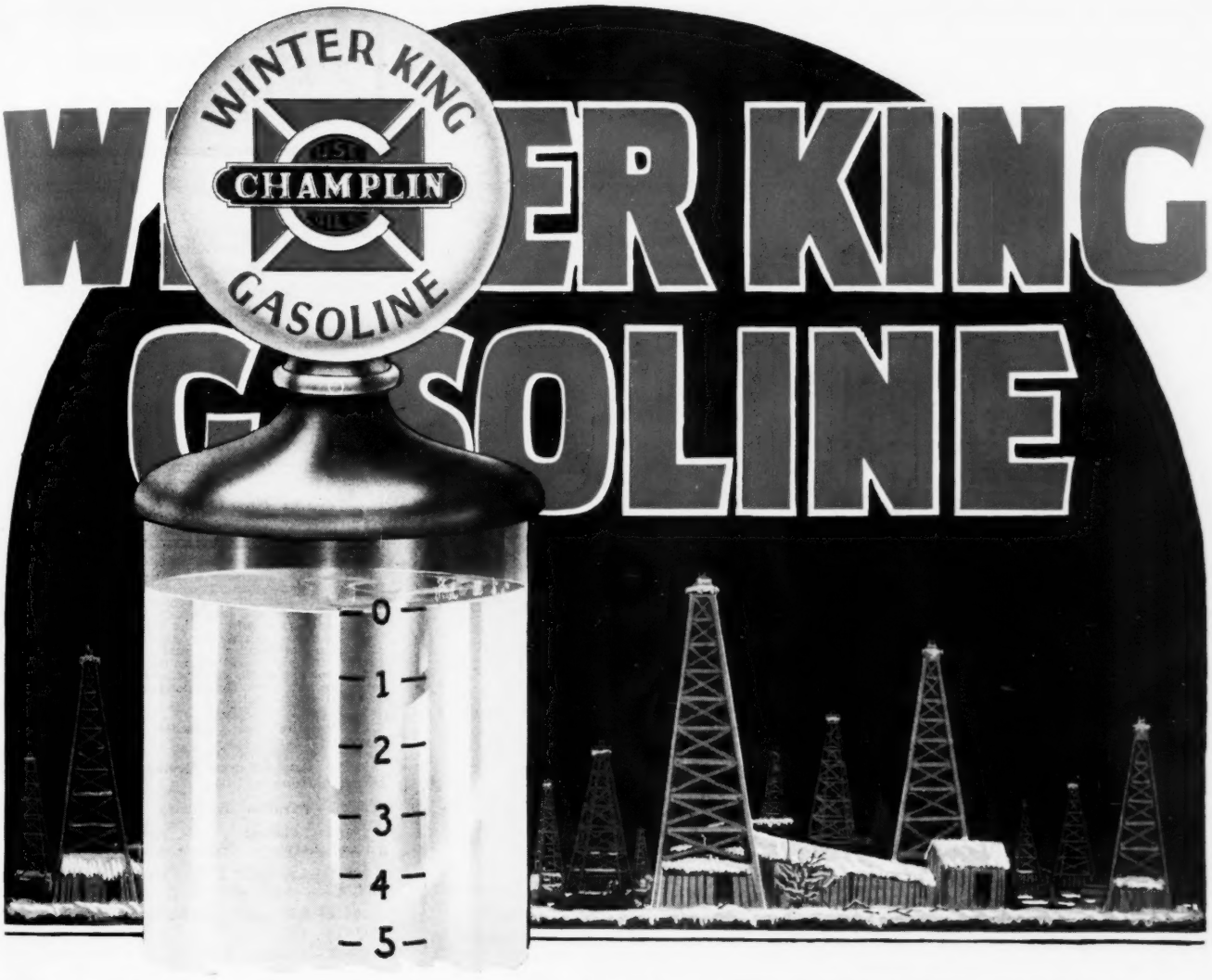
* * *

Botfield Refractories Co., Philadelphia, manufacturers of Adamant Fire Brick Cement, announces the appointment of Ires Prosser as southeastern representative. Mr. Prosser's territory will be the entire southeast from North Carolina to San Antonio, Texas. His headquarters will be Atlanta, Georgia.

* * *

The Heil Co., Milwaukee, Wis., has off the press two bulletins, one on its tanks for trucks and the other illustrating tank accessories. Construction features, specifications and other data are given.

One large oil distributor in Chicago is using a Heil tank 182 inches long and 6 feet wide, mounted on a Diamond T truck, which delivers four lots of 550 gallons each and two lots of 250 gallons each at one trip. Heil fuel oil tanks with pump units and hose reels are recommended by another oil jobber who has found them profitable and efficient.



FROM OKLAHOMA'S FINEST CRUDE

A Superior Winter Gasoline

WINTER KING is a perfected winter gasoline — crystal clear, straight-run, 60-62 gravity, below 430 end-point. It can be counted on to give the motorist 100% satisfaction in the matters of quick starting, smooth acceleration, and power. Oil jobbers everywhere are finding **WINTER KING** a real cold weather business builder.

WINTER KING'S superior quality may be traced directly to its source—Garber high-gravity, paraffin-base crude. This crude's freedom from sulphur permits us to treat without acids, and insures an acid-free, non-corrosive product. Prompt shipments. Write, wire or phone.

Champlin Oils Have Always Been Good —ALL WAYS

CHAMPLIN REFINING COMPANY ~ *Enid, Okla.*

"DEFIANCE"

REPUTATION

The co-operation of hundreds of people towards making a better barrel, has produced results. Results make reputation.

Reputation is not created in a year, although it may be lost in a day.

Only incessant vigilance and fixed integrity during the past years, have earned for Defiance Steel Barrels the reputation they enjoy among shippers of petroleum products.

THE AMERICAN STEEL PACKAGE CO.
Defiance, Ohio

No Time Wasted Making Change
ALLISON COUPON BOOKS
Accurate—Compact—Convenient

Your customers like the faster, more accurate service that Allison Coupon Books give. Simple, practical, always dependable. Furnished in stock or special designs. Send for samples and prices.

Allison Coupon Company
Indianapolis, Indiana
Coupon Book Specialists Since 1888

New Stations Building

Savannah, Ga.—John Schroder will build filling station.

Baldwin, N. Y.—Thrift Service Stations, Inc., Brooklyn, will erect filling station at Old Mill and Merrick Rds.

Taylor, Tex.—The Texas Co. is completing filling station.

Shawano, Wis.—Herman Reichel will build filling station.

San Antonio, Tex.—T. T. Parker will build filling station.

Buffalo, N. Y.—Edward Galbraith will build filling station at 2368 Seneca St.

Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

28883—**Oils and greases,** Santiago, Chile, agency.

28936—**Asphalt and bitumen,** Hamburg, Germany, purchase.

28999—**Paraffin,** Hamburg, Germany, agency.

29030—**Lubricating oils, light and heavy, and grease,** Antwerp, Belgium, purchase.

29031—**Asphalt,** 1,000 bbls. lots, Rio de Janeiro, Brazil, agency.

29032—**Oils and derivitives,** Paris, France, agency.

29035—**Asphalt,** 500 bbl. lots, Sydney, Australia, purchase or agency.

29036—**Asphalt for paving,** Harbin, China, purchase.

29037—**Lubricating oils and greases,** Buenos Aires, Argentina, agency.

29038—**Paraffin,** Naples, Italy, agency.

29079—**Oils,** Hamburg, Germany, agency.

29178—**Oils, automobile,** Amsterdam, Netherlands, purchase.

29183—**Asphalt,** Dresden, Germany, purchase.

29296—**Paraffin scale,** Liverpool, England, agency.

29348—**Oils and greases,** Sydney, Australia, purchase.

Fire Damages Borger Refinery

AMARILLO, Feb. 2.—Fire originating in its No. 2 fractionating tower caused a damage estimated at $25,000 at the Borger refinery of the Amarillo Producers and Refiners Corp. on Jan. 26. The damage was confined largely to towers, condensers and receiving house. John Wrather, refinery superintendent, was painfully burned about the face and hands while shutting off oil from adjacent tanks.

CLEVELAND—Columbus Refining Co., Cleveland, is giving a dance Feb. 18 at the Women's club, Cleveland, for its employes, business associates, and customers. Such a dance is an annual affair with Columbia of which Burt Zimmerman is general manager.

ON THE LAZY BENCH

National Petroleum News

The Budding Realtor

A real estate man who was always talking of sales of thousands of dollars, was greeted one evening by his eleven year old son who announced,

"Well, Dad, I have sold the dog."

"You have sold the dog?"

"Yes."

"What for?"

"For ten thousand dollars."

"Ten thousand dollars! What are you talking about? Where is the money?"

"I didn't get money, Dad," responded the son. "I got two five-thousand-dollar cats for it."

—Our Sun.

* * *

Senior Wrangler

First Man—Ever been married?

Second Man—Yes, I've been through it from courtship to court house.

—The Loreco Diamond.

* * *

Lady—"How far is it to the Hill-top bungalows?"

Boy—"About three miles."

Lady—"But their letter says it's only a two-minutes' walk from the station!"

Boy—"Well, believe me or believe their letter, only I ain't tryin' to sell them bungalows."

—Magnolia Oil News.

Two In The Morning

Mother was entertaining a few friends, and young hopeful was being duly shown off, and resented it, as all young hopefuls do.

"Who do you like best?" asked one friend.

"Mother," was the reply.

"Who next?" asked another.

"Little sister."

"Who next?"

"Aunt."

Father, who was seated at the back, opened his mouth and said, "And when do I come in?"

"At 2 o'clock in the morning," was the reply.

—Magnolia Oil News.

* * *

Have You Heard

The Arthur Song. "Arthur, any more at home like you?"

The Abie's Irish Rose Song. "Yes, Sir, That's My Abie."

—Our Sun.

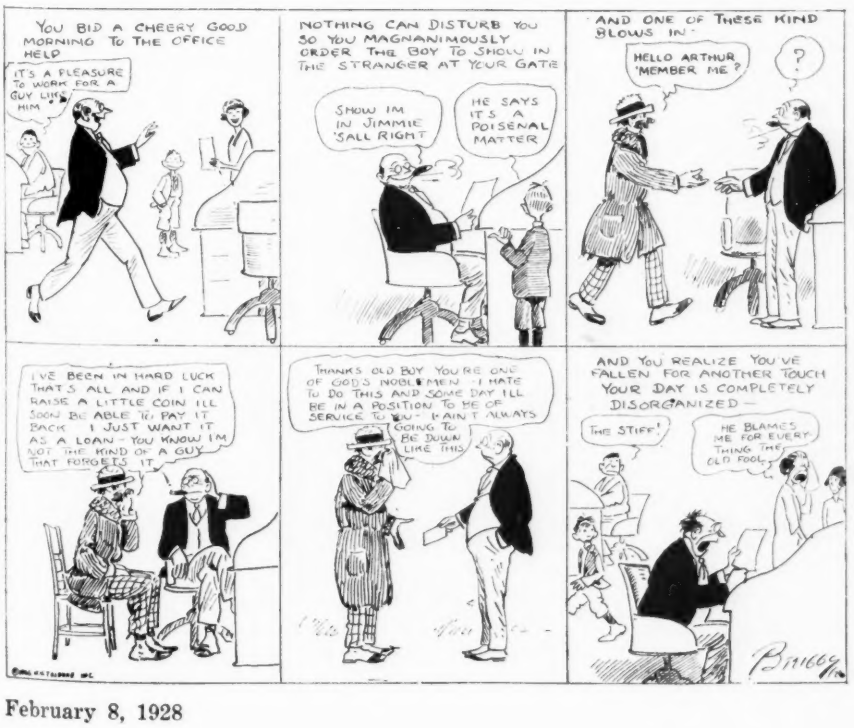
* * *

A man was standing disconsolately on a station platform. On being asked by a friend why he looked so miserable, he replied. "I've missed my train—and by half a minute."

"Good heavens!" said his friend. "Cheer up! Anyone would think, to look at you, you had missed it by half an hour."

—Magnolia Oil News.

How to Start the Day Wrong : : : : : : : By BRIGGS


YOU BID A CHEERY GOOD MORNING TO THE OFFICE HELP
IT'S A PLEASURE TO WORK FOR A GUY LIKE HIM
NOTHING CAN DISTURB YOU SO YOU MAGNANIMOUSLY ORDER THE BOY TO SHOW IN THE STRANGER AT YOUR GATE
SHOW IM IN JIMMIE 'SALL RIGHT
HE SAYS IT'S A POISENAL MATTER
AND ONE OF THESE KIND BLOWS IN
HELLO ARTHUR 'MEMBER ME ?
?
I'VE BEEN IN HARD LUCK THAT'S ALL AND IF I CAN RAISE A LITTLE COIN I'LL SOON BE ABLE TO PAY IT BACK I JUST WANT IT AS A LOAN - YOU KNOW I'M NOT THE KIND OF A GUY THAT FORGETS IT
THANKS OLD BOY YOU'RE ONE OF GODS NOBLEMEN I HATE TO DO THIS AND SOME DAY I'LL BE IN A POSITION TO BE OF SERVICE TO YOU - I AIN'T ALWAYS GOING TO BE DOWN LIKE THIS
AND YOU REALIZE YOU'VE FALLEN FOR ANOTHER TOUCH YOUR DAY IS COMPLETELY DISORGANIZED —
THE STIFF!
HE BLAMES ME FOR EVERY THING THE OLD FOOL
BRIGGS

Box Type Cases

Attractive and serviceable cases of black cobra grain Keratol and lined with red velveteen. Comfortable handle. Plain bottles in separate compartments.

No. 260—Contains twelve 2-oz. long bottles and five ¼-oz. tall grease jars..... **$3.20**

No. 261—Contains six 4-oz. bottles and five ½-oz. grease jars..... **$3.55**

No. 262—Contains seven 4-oz. bottles and five grease jars..... **$3.20**

No. 263—Contains nine 4-oz. bottles and four ½-oz. grease jars..... **$4.25**

10% discount for Cash

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

Stop oil leaks before they start

Conquer the leaking habit of oil or gasoline by using

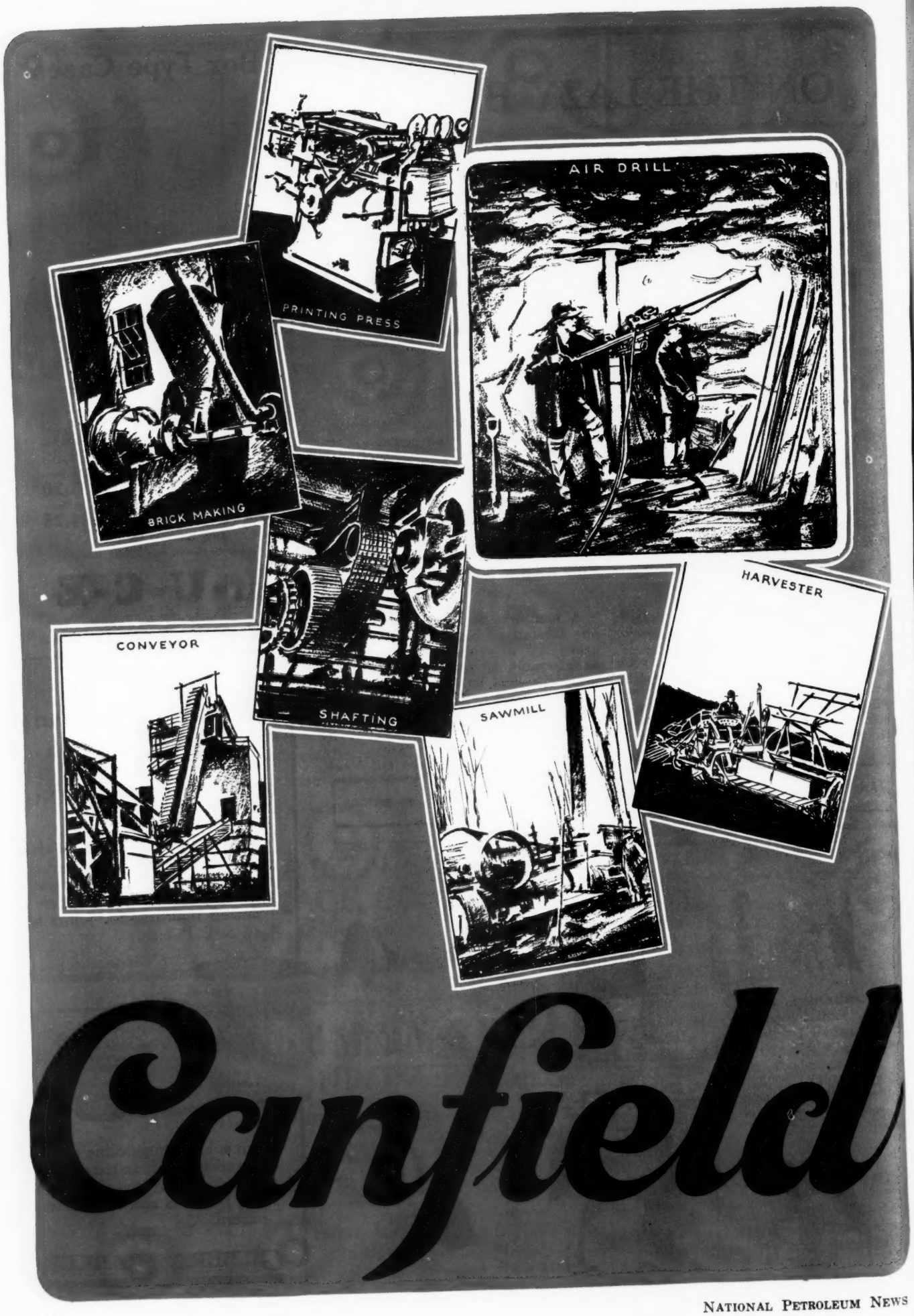
G. & B. PIPE SEALING COMPOUND

Sold at a nominal price by the makers of Gilbert & Barker Gasoline and Oil Pumps, who developed it in seeking guaranteed tightness for joints in G. & B. Pumps.

Made in quart, pint, and ⅛ pint sizes.

Not soluble in gasoline or oil, this cement when used on well cut male threads gives a joint that prevents and reduces fire hazard.

GILBERT AND BARKER MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD MASS. U.S.A.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SAWMILL
Canfield

Refinery - Tank Wagon Markets

National Petroleum News

Fuel Oils, Gasolines and Kerosenes in Demand in Mid-Continent Markets

Staff Special

TULSA, Feb. 4

THE improved condition of the Mid-Continent refinery market which became apparent late in January, was given definite support this week through active domestic demand for virtually all major commodities.

Fuel oils set the pace in all parts of the Mid-Continent. Buyers were unusually active around Feb. 1 and as demand continued prices were advanced from 2.5 to 7.5 cents a barrel, with a few grades almost unobtainable for spot shipment late in the week. Export buying of kerosenes in Oklahoma, and heavy domestic buying in Texas was sufficient to put renewed life into kerosene. Several refiners reported several jobbers were buying more gasoline for over-the-month shipment than they had bought for several months, and spot buying was good for the season. Many natural gasoline manufacturers began this month with most of their output sold for over the month shipment and some said they could see enough business in sight to make them optimistic.

Various opinions have been advanced as to why the fuel oils have been in such active demand. The most logical ones apparently are: (1) that one large company which has been dumping large quantities of fuel oil in the Chicago district has withdrawn from the market; (2) that automobile manufacturers are stepping up their production and (3) one or two large middle western railroads are closing their new contracts with the probability that their requirements will be somewhat larger.

Fuel oil buyers were more active in Oklahoma this week than for several months. The lower gravity fuels were generally inactive most of the winter but the demand this month apparently has swung away from the high gravity, low cold test goods. The large company mentioned as having dumped fuel in the Chicago market was selling mostly 26-30 and 28-30 gravity low cold test goods, at prices only fractionally higher than the Oklahoma refiners were quoting for their 18-22 and 22-26 gravity fuels. With that company eliminated buyers found Oklahoma refiners so well booked on their small production of zero cold test 28-30 fuel oil, that they swung to the lower gravity oils. Several buyers late in the week reported they had combed the field for low cold test 18-22 and 22-26 fuel oil with little success, and had found these grades scarce regardless of cold test.

Texas refiners obtained some relief when one of the larger railroads in that district bought around 200 cars of fuel oil for prompt shipment. Industrial users in Texas marketing territory also bought heavier than usual. The price, accordingly, was advanced slightly before Saturday.

No reaction to fuel oil buying was noticed in gas oil or distillate prices. Demand was generally unchanged.

AT LEAST 900,000 gallons of kerosenes were bought in Oklahoma for export early this week. One refinery sold around 300,000 gallons of 44 gravity kerosene, and another sold approximately 600,000 gallons of 41-43. The latter's price was 4 cents a gallon. The price obtained for the 44 was not revealed.

The Gulf Refining Co. supplemented its heavy buying of U. S. Motor gasoline in Texas, Louisiana and Arkansas by purchasing around 100 cars of kerosene at 4.25 cents a gallon for distribution to its retail stations. The Humble Oil & Refining Co. was in the market for kerosene as it usually is around the first of the month. The quantity purchased, however, was not announced.

The kerosene buying took virtually all available spot kerosene and a few refiners sold their entire output for the remainder of February. Prices of 41-43 w.w. in north Texas today were 4.25 to 4.375 cents a gallon, with some quotations out at 4.50 cents a gallon.

The buyer for an export company said yesterday that a few refiners with whom he had talked regarding kerosene, intended to store their production rather than accept 4 cents a gallon since February and March are usually the peak months of spring demand. A slight increase in demand from the jobbing trade was reported in several quarters this week, which was taken by some of the trade as a forerunner of the spring demand.

Refiners almost without exception reported a considerably better demand this week for gasolines. A larger percentage of the buying also was 58-60 and 60-62, U. S. Motor grades. Marketers have been extremely cautious in their over-the-month buying this winter but many of them were seeking gasolines this week for deferred shipment.

Several refiners in Oklahoma late in the week advanced their prices on 58-60 U. S. Motor 0.125 to 0.25 cent a gallon, although no changes were made in the prices of higher gravity gasolines.

Texas refiners were still working on export and large domestic orders and were but little interested in the spot market. Exporters were reported to be offering around 6.625 cents a gallon for 64-66, 375 e.p. gasoline, but refiners were asking 6.75 to 6.875 cents a gallon, and little new business was developed this week.

Of the three refiners in the Shreveport district, one is contracted almost to capacity, another must buy some gasoline, and the third refiner said today he was oversold for February. The situation in Arkansas is almost the same. In Kansas refiners report their volume of gasoline business has been keeping pace with that in other areas.

HEAVY buying of grades BB and C, natural gasoline, was done early this week and most sellers have indicated they will have little if any of these grades to offer before Feb. 15. Buying of grade AA was sufficient to prevent any noticeable amount being freely offered on the spot market. Indications were that there would be some new buying within the next few days.

The minimum price of 150-160 vis. bright stocks in Oklahoma was reduced 1 cent this week as two or three refiners endeavored to push out stocks accumulated during the winter. Sales ranged from 22 to 25 cents a

(*Continued on Page* 117)

SIMMS GAS

A Modern Refinery—

at Dallas, Texas

—produces the Gasoline requirements of Simms' many customers in Texas and other Southern States.

This plant specializes in the manufacture of 58-60 U. S. Motor Gasoline of uniformly high quality. Another plant at Smackover, Ark., is devoted exclusively to production of ANTI-KNOCK Gasolines.

"A Trial Car Is Convincing Evidence"

SIMMS OIL COMPANY

Producers-Refiners-Marketers

General Offices: DALLAS, TEXAS

Refineries

DALLAS

SMACKOVER

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

	Prices Feb. 6	Prices Jan. 30	Prices Jan. 23
PENNSYLVANIA			
52-54 Naphtha	7.75 – 8.00	7.75 – 8.00	8.00 – 8.25
54-56 Naphtha	7.75 – 8.00	7.75 – 8.00	8.00 – 8.25
58-60 Gasoline	7.875– 8.00	7.75 – 8.00	8.00 – 8.25
60-62 Str.-run gasoline	8.25 – 9.00	8.25 – 9.00	8.50 – 9.00
64-66 Str.-run gasoline	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
68-70 Str.-run gas. 350-360 e.p.	10.00 –10.50	10.00 –10.50	10.00 –10.50
OKLAHOMA			
48-50 450 e.p. naphtha	†5.375– 5.50	†5.375– 5.50	†5.375– 5.625
50-52 450 e.p. naphtha	†5.375– 5.50	†5.375– 5.50	†5.375– 5.625
56-58 450 e.p. gasoline	**5.50 – 5.75	**5.50 – 5.75	**5.50 – 5.75
58-60 450 e.p. gasoline	**5.50 – 5.875	**5.50 – 5.875	**5.50 – 5.875
56-58 U. S. Motor, 437 e.p.	††5.75	††5.75	††5.75
58-60 U. S. Motor, 437 e.p.	‡6.0397	5.75 – 6.00	5.625– 6.00
60-62 437 e.p. gasoline	‡6.4562	5.875– 6.375	5.875– 6.375
60-62 400 e.p. gasoline	‡6.5750	6.25 – 6.50	6.125– 6.50
64-66 390 e.p. gasoline	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
64-66 375 e.p. gasoline	‡7.1875	6.75 – 7.00	6.75 – 7.00
68-70 350-360 e.p. gasoline	7.00 – 7.25	7.00 – 7.375	7.00 – 7.375

‡These are weighted average prices, effective Saturday, Feb. 4, the last date on which weighted averages are available for publication in this table. Weighted average prices for Monday will be published on page 37.

KANSAS (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	6.125– 6.375	6.125– 6.375	6.125– 6.375
60-62 400 e.p. gasoline	6.75	6.75	6.75
64-66 375 e.p. gasoline	7.375	7.375	7.375
NORTH TEXAS			
48-52 450 e.p. naphtha	†5.50	†5.50	†5.50
56-58 450 e.p. gasoline	†5.50	†5.50	†5.50
58-60 450 e.p. gasoline	†5.50	†5.50	†5.50
58-60 U. S. Motor 437 e.p.	†6.00	†6.00	†5.875– 6.00
60-62 400 e.p. gasoline	6.25 – 6.375	6.25 – 6.375	6.25 – 6.375
64-66 390 e.p. gasoline	6.375– 6.50	6.375– 6.50	6.375– 6.50
64-66 375 e.p. gasoline	6.75	6.75	6.625– 6.75
68-70 350-360 e.p. gasoline	7.125– 7.25	7.125– 7.25	7.125– 7.25
NORTH LOUISIANA (For Louisiana and differential territory destination)			
58-60 U. S. Motor gasoline	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	6.25	6.25	6.25
58-60 450 e.p. gasoline	6.25	6.25	6.25
58-60 U. S. Motor 437 e.p.	6.375	6.375	6.375
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	**6.25	**6.25	**6.25
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.00 – 8.50	7.00 – 8.50	7.00 – 8.00
*58-61 U.S. Motor 437 e.p.	8.00 – 9.50	8.00 – 9.50	8.00 – 9.50
*42-45 Eng. dis. 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

*2c tax to be added if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F. Since Oct. 1, 1927 all naturals must pass corrosion test.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	†5.375– 5.625	†5.375– 5.625	5.375– 5.50
Grade A, 72-79.9, 90% Recovery	†5.375– 5.625	†5.625– 5.75	†5.50 – 5.625
Grade BB, 84-92, 85% Recovery	†4.75 – 4.875	†4.75	†4.00 – 4.25
Grade B, 76-83.9, 85% Recovery	†4.75 – 4.875	†4.75	†4.375– 4.50
Grade C, 80-92, 78% Recovery	†4.50 – 4.625	†4.50	†3.875– 4.00
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	†5.375– 5.625	†5.375– 5.625	†5.375– 5.50
Grade A, 72-79.9, 90% Recovery	†5.375– 5.625	†5.625– 5.75	†5.50 – 5.625
Grade BB, 84-92, 85% Recovery	†4.75 – 4.875	†4.75	†4.00 – 4.25
Grade B, 76-83.9, 85% Recovery	†4.75 – 4.875	†4.75	†4.50
Grade C, 80-92, 78% Recovery	†4.50 – 4.625	†4.50	†3.875– 4.00
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†6.00	†5.875– 6.00	†5.625– 5.75
Grade BB	†5.00 – 5.25	†4.875– 5.00	†4.50 – 4.625
Grade C	†4.75 – 5.00	†4.50 – 4.625	†4.125
CALIFORNIA			
75-85, 375-390 e.p. blend.	7.00 – 7.50	7.00 – 7.50	8.00 – 9.00

MOTOR FUEL BLENDS

PENNSYLVANIA			
68-70 Blend 437 e.p.	Prices	.....	.....
64-66 Blend 437 e.p.	temporarily	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....
OKLAHOMA			
64-66 Blend 437 e.p.	†5.625– 6.00	†5.625– 6.00	†5.50 – 6.00

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
46 w.w. kerosene	6.625– 6.875	6.625– 6.875	6.625– 6.875
47 w.w. kerosene	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
OKLAHOMA			
41-43 w.w. kerosene	4.125– 4.25	4.00 – 4.25	4.125– 4.375
42-44 w.w. kerosene	4.50 – 4.625	4.50 – 4.625	4.625– 4.75
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
42-44 w.w. kerosene	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
NORTH TEXAS			
40-42 w.w. kerosene	†4.00 – 4.125	†4.00	†4.00
41-43 w.w. kerosene	†4.25 – 4.375	†4.125– 4.25	†4.00 – 4.25
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w.w. kerosene	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
ARKANSAS (For intrastate shipment only)			
42-44 kerosene	4.75 – 5.00	5.00 – 5.25	5.00 – 5.25
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
42-44 kerosene	5.00	5.00	5.00
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEUTRAL OIL

PENNSYLVANIA			
Vis.	**(Viscosity at 70°F.)**		
200 No. 3 Assoc. Filt.	33.00 –34.00	33.00 –34.00	33.00 –34.00
180 No. 3 Assoc. Filt.	30.00 –32.00	30.00 –32.00	30.00 –32.00
150 No. 3 Assoc. Filt.	27.00	27.00	27.00 –27.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
36 Min. Neut. 300-305 Flash	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
****OKLAHOMA**			
Vis. Color	**(Viscosity at 100°F.)**		
100—No. 2	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
150—No. 3	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
150—No. 4	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 3	9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
180—No. 5	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.50 –10.75	9.50 –10.75	9.50 –10.75
200—No. 5	8.50 –10.50	8.50 –10.50	8.50 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	13.50 –14.00	13.50 –14.00	13.50 –14.00
240—No. 4	13.25 –13.50	13.25 –13.50	13.25 –13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	15.50 –16.50	15.50 –16.50	15.50 –16.50
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
GULF COASTAL			
Vis. Color	**(Viscosity at 100° F., pour test 0)**		
100—No. 2 Unfilt. Pale	6.75 – 7.25	6.75 – 7.25	6.50 – 7.00
200—No. 3 Unfilt. Pale	9.25 –10.00	9.25 –10.00	9.00 –10.00
300—No. 3 Unfilt. Pale	10.25 –11.00	10.25 –11.00	10.00 –11.00
500—No. 3½ Unfilt. Pale	12.25 –13.00	12.25 –13.00	12.00 –13.00
750—No. 4 Unfilt. Pale	14.25 –15.00	14.25 –15.00	14.00 –15.00
200—No. 5½ Red Oil	7.25 – 8.00	7.25 – 8.00	7.00 – 8.00
300—No. 5½ Red Oil	8.25 – 9.00	8.25 – 9.00	8.00 – 9.00
500—No. 6 Red Oil	9.75 –10.50	9.75 –10.50	9.50 –10.50
750—No. 6 Red Oil	12.25 –13.00	12.25 –13.00	12.00 –13.00
CALIFORNIA			
Vis. Color	**(Viscosity at 100°F.)**		
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

****OKLAHOMA**			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	22.00 –25.00	23.00 –25.00	23.00 –25.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	8.50 –10.00	8.50 –10.00	9.00 –10.00
600 St. Ref. Dark Green	6.75 – 8.00	6.75 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	**(1-inch Immersion Test)**		
600 Steam Refined	9.00 –10.50	9.00 –10.50	9.00 –10.00
650 Steam Refined	11.25 –12.25	11.25 –12.25	11.25 –12.25
600 Flash	16.00 –16.50	16.00 –16.50	16.00 –16.50
625 Flash	26.00 –27.00	26.00 –27.00	26.00 –27.00
600 Warren E	17.00 –18.00	17.00 –18.00	17.00 –19.00
600 Oil City E	15.00 –16.00	15.00 –16.00	15.00 –16.00
600 D Filtered	24.50 –25.50	24.50 –25.50	24.50 –25.50
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210°, 540-550 flash, No. 8 color	28.00 –29.00	28.00 –29.00	28.00 –29.50
40-50 p.p., 140-150 vis. at 210, 540-550 flash, No. 6-6½ color diluted	26.00 –27.00	26.00 –27.00	26.00 –27.50

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher)

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

THE OBLIGATION WE OWE YOU—THE CUSTOMER

One thought deeply graven in the minds of our organization this year is volume. To make every square foot of our great new factory resound with the riveter's hammer and glow with the welder's torch, to materially increase sales volume, we have bent the coordinated strength of each person within our gates.

Our purchasing power of raw materials, our heightened efficiency through studied methods and new machinery, our ability to deliver promptly, and greater perhaps than all the others, the fidelity of our guarantee, should direct your thoughts to "Youngstown" this year when you are considering steel storage.

That we will honor the confidence you place in us is testimony of years past.

The Youngstown Boiler & Tank Co.
Youngtown, Ohio

Youngstown TANKS
"KEENE STANDARDIZED MADE"

Guaranteed 100% PURE PENNSYLVANIA OIL

Finest Grades of

100% Pure Pennsylvania Products

GASOLINE
KEROSENE
FUEL OIL
NEUTRALS
BRIGHT STOCKS
MOTOR OILS

Our 30 years of experience is our guarantee to you of the finest and best products that can be produced.

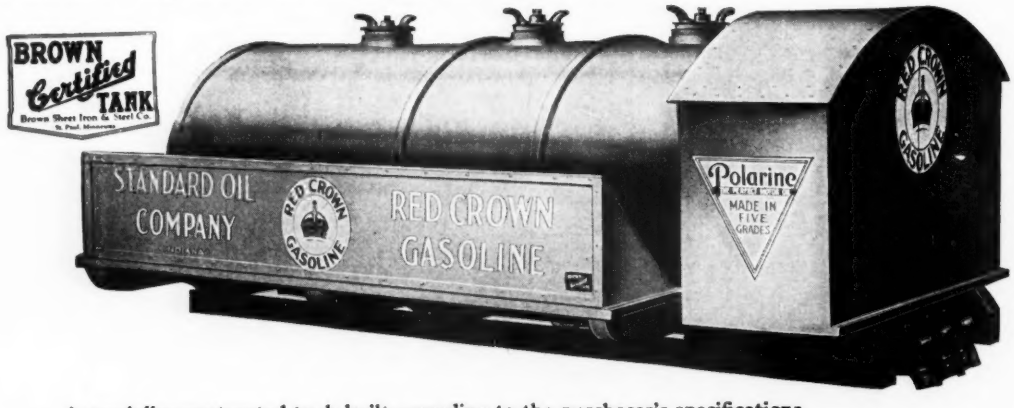
Let us quote on your requirements.

Write—Wire—Phone

Superior Oil Works
Warren, Penna.

WHY A BROWN TANK IS CERTIFIED OIL-TIGHT

First—Over 15 years of practical experience in building.
Second—Guaranteed Thickness Material of proper analysis.
Third—Correct design to handle the load.
Fourth—They are built the right way not the cheapest way.



Through many years of experience in building oil equipment, we know your problems in every detail.

Our exceptional manufacturing facilities enable us to give the best kind of service.

A specially constructed tank built according to the purchaser's specifications.
The Standard Oil Company have several hundred of these in service.

BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

— — — — — — — — *Tear out this coupon and mail it to-day* — — — — — — — —

We are interested in your tanks. Send your catalog and prices.

Make of Truck..... Year..... We operate..... (number) Tank Trucks.

Other equipment on which you may send prices.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown
(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

WAX

	Prices Feb. 6	Prices Jan. 30	Prices Jan. 23
PENNSYLVANIA Per Pound, New York			
122-124 white crude scale	3.125– 3.25	3.125– 3.25	3.00 – 3.25
124-126 white crude scale	3.125– 3.25	3.125– 3.25	3.125– 3.25
OKLAHOMA			
**124-126 White Crude Scale	3.125– 3.25	2.875– 3.125	2.75 – 3.00
CALIFORNIA			
White crude scale, per pound, ton lots	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA			
16-40 fuel oil	4.75 – 5.00	4.75	4.50 – 4.75
30-34 fuel oil	4.75 – 5.00	4.75 – 5.00	4.625– 4.75
28-32 fuel oil	4.75 – 5.00	4.75 – 5.00	4.625– 4.75
OKLAHOMA			
38-40 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
36-38 straw distillate	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
•32-36 gas oil, straw	†2.625– 2.75	†2.625– 2.75	†2.625– 2.75
•32-36 dark gas oil	2.50	2.50	2.50
28-30 fuel oil (in bbls.)	$0.925– 0.975	$0.925– 0.975	$0.925– 0.975
26-28 fuel oil (in bbls.)	$0.85 – 0.90	$0.85 – 0.90	$0.85 – 0.90
24-26 fuel oil (in bbls.)	**$0.825– 0.85	**$0.80	**$0.80
22-26 fuel oil (in bbls.)	**$0.80– 0.825	**$0.75– 0.775	**$0.75– 0.775
18-22 fuel oil (in bbls.)	**$0.775	**$0.70– 0.725	**$0.70– 0.725
16-18 fuel oil (in bbls.)	**$0.725–0.75	**$0.70	**$0.70
14-16 fuel oil (in bbls.)	**$0.725–0.75	**$0.70	**$0.70

•Zero cold test low flash goods sell for ¼ cent more per gallon.
Zero cold test fuel oils sell for 5 to 15 cents more per bbl.

KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate	3.25	3.25	3.25
32-36 gas oil	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 fuel oil	*$0.85	*$0.90– 0.95	*$0.90 – 0.95
18-22 fuel oil	*$0.90– 1.00	*$0.85	*$0.85
NORTH TEXAS			
38-40 straw distillate	3.25 – 3.375	3.125– 3.25	3.125– 3.25
32-36 gas oil, cracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
32-36 gas oil, uncracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
24-26 fuel oil (in bbls.)	$0.725– 0.75	$0.70	$0.70

GULF COASTAL	Prices Feb. 6	Prices Jan. 30	Prices Jan. 23
Fuel (in bbls.)	$1.40 –$1.50	$1.40 –$1.50	$1.40 –$1.50
Gas oil	4.375– 4.50	4.375– 4.50	4.375– 4.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, dark	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
32-36 gas oil, straw	3.125– 3.25	3.125– 3.25	3.125– 3.25
16-20 fuel oil (in bbls.)	$1.00	$0.975– 1.00	$0.975– 1.00
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil, straw	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 gas oil	3.00	3.00	3.00
28-32 gas oil	2.75	2.75	2.75
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
Smackover crude fuel	$0.975– 1.00	$0.975– 1.00	$0.975– 1.00
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)	$0.60 –$0.75	$0.60–$0.75	$0.60 –$0.75
14-18 Bunker oil (in bbls.)	$0.80 –$1.00	$0.80–$1.00	$0.80 –$1.00
30-34 gas oil (in bbls.)	$1.05 –$1.10	$1.05–$1.10	$1.05 –$1.10
27 Plus Diesel oil (in bbls.)	$0.90 –$1.00	$0.90–$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ½c per pound more.)			
Snow White	8.875	8.875	8.875
Lily White	7.875	7.875	7.875
Cream White	6.875	6.875	6.875
Light Amber	3.875	3.875	3.875
Amber	3.50	3.50	3.50
Red	3.25	3.25	3.25
Green No. 5 color	2.625	2.625	2.625

**PETROLEUM COKE

Oklahoma

(Per ton in car lots)			
Lump	$5	$5	$5
Still run	$3	$3	$3
Breeze	$2	$2	$2

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING •QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

(*Continued from Page* 113)

gallon. Other cylinder stocks and neutral oils were sold at unchanged prices.

The higher wax prices at both the eastern and Gulf markets has reacted directly on the Oklahoma wax market. Most Oklahoma refiners that make wax, report they are virtually sold up for both February and March, and almost without exception now are asking 3.125 to 3.25 cents a pound for 124-126 white crude scale grade.

New "Lube" Jobber Opens Office in Springfield

SPRINGFIELD, Ill., Feb. 4.—A new distributing organization has entered the oil business in central Illinois. The Figueira Oil Co. was organized during January and established headquarters in Springfield. It is headed by Byron W. Figueira, for a long time salesman for Tide Water Oil Sales Corp., and during 1927 as sales manager for southern Illinois. The company will specialize in lubricating oil sales, at least for the present.

Mr. Figueira, when he left Tidewater, took the exclusive right to sell Veedol oils and greases in Sangamon, Cass, Menard, Christian, Macoupin and Montgomery counties and procured warehousing facilities in the capital city, which is his home town.

Export Lube Markets Are Unchanged

NEW YORK, Feb. 4.—Little export demand for lubricating oils was noted in any of the various seaboard markets this week. Conditions in all markets, with few exceptions, were virtually the same as a week ago.

Pennsylvania neutrals were reported extremely scarce and strong in the New York market; prices, however, were generally unchanged. On the other hand Pennsylvania 600 steam refined was offered in larger volume than for some time past and prices were slightly lower in several quarters.

Mid-Continent bright stocks were slightly higher; buyers reported 23 cents the minimum price at which 150-160 viscosity oil could be purchased this week which represents an advance of 1 cent a gallon.

The Houston market was without material change although 100 No. 2 pale oil was reported scarcer at 6 cents a gallon.

White Crude Scale Price Advances at Gulf

NEW YORK, Feb. 4.—An apparent scarcity of white crude scale in the Mid-Continent brought higher prices for goods sold at New Orleans this week. South American buyers continued active, and brokers in New York seeking supplies to cover orders already booked reported difficulty in filling their requirements. Mid-Continent refiners for the most part reported their outputs sold up through March.

Several small lots of white crude scale sold at 3.25 cents a pound at New Orleans and occasional sales as high as 3.50 cents were reported. One refiner reported receiving several bids of 3.45 cents.

The New York market lagged, although it was expected a large inquiry from the United Kingdom which was reported in the market toward the end of the week would stimulate activity next week. The inquiry was for 1,500 tons of white crude scale. The bulk of this grade sold this week at around 3.125 to 3.15 cents a pound; some business was closed at 3.05 cents. Quotations at 3.25 cents a pound were more numerous during the latter days of the week.

Fully refined grades were more active; the high melting points were particularly scarce and one or two refiners reported being sold up.

Borne Scrymser Co.—Annual meeting will be held Feb. 27 at the company's offices in Elizabeth, N. J.

Shortage Reported in Zero Fuel Oils in Chicago; Prices Rise

Staff Special
CHICAGO, Feb. 4

AN ACTUAL shortage of zero fuel oils was reported by the Chicago oil trade this week. Many sellers said they were unable to get low cold test goods and others said they were obtainable but at considerably higher prices than for some time. Prices on all grades were approximately 2.50 cents higher today than a week ago. Sellers of Smackover crude fuel enjoyed a considerable increase in business this week. This is the first time in several months that the price of Oklahoma fuel was high enough to bring any noticeable demand for Smackover in the Chicago market. Quotations, however, continued mostly at $1 to $1.025.

Abnormally warm weather of the past week coupled with good roads throughout the district brought improved demand for gasoline. A local marketer reported that his U. S. Motor gasoline business in January was more than 100 cars larger than last year. Better demand for U. S. Motor than for the higher gravities was reported by most sellers. Practically all refiners and marketers advanced their prices 0.125 to 0.25 cent this week.

Sales of 58-60 U. S. Motor were reported at 5.75 cents up to Thursday when the bottom of the market was 5.875 cents. Sales were made at 6 cents all week and some sellers quoted up to 6.25 cents Saturday and did some business.

Higher gravity gasolines were in fair demand all week with prices generally unchanged for most grades. The 60-62, 437 e.p. goods moved at 5.875 to 6 cents until Thursday after which a spread of 5.875 to 6.125 cents prevailed. Gasoline of like gravity with a 400 e.p. moved at 6.25 to 6.50 cents all week. The 64-66, 375 e.p. grade sold all week at 6.875 to 7 cents, although some sales were reported at 7.125 cents.

A better tone was apparent in the kerosene market. Prices moved up approximately 0.125 cent the middle of the week because of heavy export buying and a slight increase in domestic demand. Most 41-43 w.w. kerosene for domestic use was bringing 4.125 to 4.25 cents Friday and Saturday after moving at 4 to 4.25 cents until Thursday. The goods that moved for export, sold at a reported price of around 4 cents, Group 3.

Demand for distillate was steady at generally unchanged prices. The 38-40 straw continued to sell mostly at 3.25 to 3.375 cents, with some sellers getting 3.50 cents.

Demand for gas oils was good this week, both from the jobbing trade and from industrial concerns. It was reported that several refiners were storing gas oil for future cracking. Ordinary dark 32-36 gas oil was in better demand late this week and sold mostly for 2.625 cents flat Friday and Saturday as against 2.50 to 2.625 cents earlier in the week. Some sellers were quoting up to 2.75 cents for this grade. Prices did not change materially on 32-36 dark zero gas oil this week. Most sales were at 2.875 to 3 cents with some reported at 3.125 cents. Straw zero 32-36 gas oil moved throughout the week at 3.125 to 3.25 cents.

Scarcity of low cold test fuels was reflected late this week in a sporadic tank wagon advance of approximately 0.25 cent in Chicago. Local distributors of burner fuel have worked on a rather disturbed market this winter; some were willing to sacrifice margin for gallonage, but the tight refinery market has greatly impressed the situation, it is said.

A wide variation of prices continued on fuel oils, especially noticeable on the lower gravities. The 28-30 fuel opened the week at $1 to $1.075 and sold at $1.00 to $1.10 thereafter. Fuel of 24-26 gravity closed the week at $0.80 to $0.90 after moving mostly at $0.80 to $0.875 earlier in the week. The 22-26 fuel was at $0.80 to $0.875 most of the week after opening at $0.80 to $0.85. A wide spread of prices exists between ordinary 18-22 fuel and zero goods. The ordinary goods moved mostly at $0.775 to $0.80 throughout the week with the zero bringing from 7.50c to 10c more per barrel.

PLATT'S
OILGRAM
Petroleum Markets-Every Day

HOW SURE ARE YOU?

If you were to place an order *today* for gasoline, or kerosene, or fuel oil, or lubricating oil—

How sure would you be that you were buying *at the right time* and *at the actual market?*

Did you hear of a tankwagon cut today in another territory, which might indicate a cut coming in yours? Or, did crude change today? Or, did some one put in a big buying order for export which will stiffen the gasoline market ¼ cent or so tomorrow?

A large part of your profits come from *daily accurate knowledge* of market prices and conditions.

PLATT'S OILGRAM brings you this market information from an unbiased source daily. Costs only 30 cents a day—a year for $75, or 3 months for $25. It's your greatest aid to showing PROFIT at the end of the year.

TULSA—904 World Bldg.
CHICAGO—35 E. Wacker Drive
NEW YORK—342 Madison Ave.
CLEVELAND—728 Penton Bldg.

Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of Louisiana—S.s. price only of gasoline advanced 1 cent, New Orleans, to 18.5 cents, **Jan. 24.**

Standard of Indiana—T.w. and s.s. prices gasoline advanced 2 cents, Peoria, both to 14 cents, including 2 cent state tax, **Feb. 2.** T.w. and s.s. prices advanced 3.7 cents, Grand Rapids, to 17.7 cents and 19.7 cents respectively, including 3 cent state tax, **Jan. 29.**

* * *

Sapulpa Refinery Damaged By Fire

TULSA, Feb. 4.—The Continental Oil Co. sustained a loss by fire variously estimated at $250,000 to $300,000 at its Sapulpa refinery on Feb. 2. The fire started early in the morning when a still boiled over and the contents flashed. It is believed that the accident resulted from moisture. No one was injured.

The fire burned for several hours before it was under control. Damage was done to stills, towers and condensing and run-down equipment. Officials of the company from Denver came to Oklahoma today to survey the damage and make plans for rebuilding.

Los Angeles Shipments

LOS ANGELES, Feb. 4.—Only 14 tankers left Los Angeles harbor for points outside of Pacific coast trade territory during week ended Jan. 28. This is six less than the previous week. A total of 958,186 barrels of crude and other petroleum products, or a daily average of 136,884 barrels, left the harbor. This is a 58,889 barrel daily decline when compared with 1,370,412 barrels, or a daily average of 195,773 barrels, for the previous week.

The total movement included 2,962 barrels of crude, 453,662 barrels of fuel, 378,056 barrels of gasoline, 75,000 barrels of gas oil and 48,506 barrels of Diesel. Pacific foreign points drew 2,962 barrels of crude, 195,754 barrels of fuel, 63,000 barrels of gasoline and 48,506 barrels of Diesel. Shipments to Atlantic domestic were 79,550 barrels of fuel, 75,000 barrels of gas oil and 250,056 barrels of gasoline. The remainder went to Atlantic foreign.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(As posted by principal marketing companies)

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect February 6, 1928

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	20	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Md.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20.5	*	14
Norfolk, Va.	16	4½	20.5	23.5	12
Richmond, Va.	14	4½	18.5	21.5	14
Roanoke, Va.	16	4½	20.5	23.5	14
Petersburg, Va.	16	4½	20.5	23.5	14
Charleston, W. Va.	16	4	20	23	14
Keyser, W. Va.	16	4	20	23	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	20	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	17	0	17	21	15
Albany, N. Y.	13	0	13	15	15
Buffalo, N. Y.	13	0	13	16	14
†Rochester, N. Y.	13	0	13	16	12
Syracuse, N. Y.	15	0	15	15	15
Boston, Mass.	17	0	17	15	15
Augusta, Me.	17	4	21	21	15
Manchester, N. H.	17	4	21	23	15
Burlington, Vt.	17	3	20	22	15

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 3c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	15	2	17	17	15
Boston, Mass.	15	0	15	15	15
Springfield, Mass.	15	0	15	15	15
Worcester, Mass.	15	0	15	15	15
Hartford, Conn.	16	2	18	18	15
New Haven, Conn.	16	2	18	18	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	13	5	18	21	15
Covington, Ky.	14	5	19	22	15.5
Clarksdale, Miss.	13	4	17	20	11.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	12
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.‡	14	4	18	21	14.5
Mobile, Ala.‡	14	4	18	21	14
Montgomery, Ala.*‡	9	4	13	16	15.5
Atlanta, Ga.	12	4	16	18	†14
Augusta, Ga.	14	4	18	20	†16.5
Macon, Ga.	9	4	13	16	†13.5
Savannah, Ga.	13	4	17	19	†14.5
Jacksonville, Fla.*	13	5	18	21	11.5
Miami, Fla.*	15	5	20	23	14.5
Tampa, Fla.*	13	5	18	21	13
Pensacola, Fla.*	**14	5	**19	22	13

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

‡Alabama gasoline prices include 1/40 of 1c inspection fee. Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

*Florida gasoline prices include ½c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	13.5	2	15.5	17.5	12.1
E. St. Louis, Ill.	13.1	2	15.1	17.35	11.2
Joliet, Ill.	14.4	2	16.4	18.4	12.3
Peoria, Ill.	12	2	14	14	12.1
Quincy, Ill.	14.2	2	16.2	18.2	11.9
Indianapolis, Ind.	11.2	3	14.2	15.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	14.4	3	17.4	17.4	13.4
Detroit, Mich.	12.8	3	15.8	17.8	13.7
Grand Rapids, Mich.	14.7	3	17.7	19.7	13.6
Saginaw, Mich.	14.9	3	17.9	19.9	13.8
Green Bay, Wis.	14.6	2	16.6	18.6	12.4
Madison, Wis.	14.3	2	16.3	18.3	12.1
Milwaukee, Wis.	14.1	2	16.1	18.1	11.9
La Crosse, Wis.	15.2	2	17.2	19.2	13
Minneapolis, Minn.	12	2	14	14	12.9
Duluth, Minn.	13.5	2	15.5	17.5	12.9
Mankato, Minn.	12.1	2	14.1	16.1	12.7
Des Moines, Ia.	11.9	3	14.9	16.9	12.3
Davenport, Ia.	12.5	3	15.5	17.5	12.3
Sioux City, Ia.	14.1	3	17.1	19.1	11.9
Mason City, Ia.	14.5	3	17.5	19.5	12.3
St. Louis, Mo.	*13.6	2	15.6	17.9	11.3
Kansas City, Mo.	†12.9	2	14.9	16.9	10.6
St. Joseph, Mo.	†12.5	2	14.5	16.5	11.2
Fargo, N. D.	13	2	15	17	14.9
Grand Forks, N. D.	17.2	2	19.2	21.2	15.2
Minot, N. D.	16.9	2	18.9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	15.5	4	19.5	21.5	13.9
Wichita, Kans.	10.8	2	12.8	12.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana's quantity discount schedule on tank wagon deliveries of gasoline outside the city of Chicago is 1c for 50 gals. or more at one delivery; 1½c for 6,000 gals. or more a month; 2c for 10,000 gals. or more a month, and 3c for 15,000 gals. or more a month.

In Chicago, above discounts apply, except that minimum required quantity to get the 1c discount is 100 gals., instead of 50 gals. This 1c discount applies on quantities of 100 gals. and over, in addition to regular Q.D.A. discounts applying thru rest of territory, as stated above.

Service station discount is 2c per gal. to consumers of 200 gals. or more a month, or 2400 gals. per year.

Discount on kerosene is 1c on 50 gal. dumps throughout territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	18.5	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	13	3	16	18	12.5
Pueblo, Colo.	13	3	16	18	14.5
Grand Junction, Colo.	17.5	3	20.5	22.5	18
Casper, Wyo.	14	3	17	19	13
Cheyenne, Wyo.	15	3	18	20	14.5
Butte, Mont.	19.5	3	22.5	22.5	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	16.5	3½	20	21	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA*

Phoenix, Ariz.	19	4	23	27	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

*On Oct. 1, t.w. price at all points for spot sales, was advanced 1c. Very large portion of deliveries are under contract carrying above prices. New customers signing contracts and selling only one brand of gasoline, are given prices published in above table.

S. O. LOUISIANA

Little Rock, Ark.	11	5	16	16	11
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	13.5	2	*15.5	*18.5	†14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	14	3	17	18.5	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax

S. O. OHIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
All Ohio points	14	3	17	19	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	10	3	13	16	10
Oklahoma City	10	3	13	14	10
Tulsa, Okla.	10	3	13	14	10
Fort Smith, Ark.*	13	*3	16	19	10
Little Rock, Ark.	11	5	16	16	11
Texarkana, Ark. *	12	*3	15	18	12
Dallas, Tex.	9	3	12	15	11
Fort Worth, Tex.	11	3	14	16	10
Houston, Tex.	10	3	13	15	15
San Antonio, Tex.	10	3	13	15	10
El Paso, Tex.	11	3	14	15	16

*Within City of Texarkana and Fort Smith, the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In these two districts outside of the city the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.2	18
Detroit	16.4	17.9	19.7
Kansas City	†14.9	†16.4	†18.4
Milwaukee	15.4	*18.9	*20.7
Minneapolis	*18.7	*20.2	*22
St. Louis	14.6	16.1	17.9
New York	...	...	...

Note: Above prices on Oleum Spirits and V. M. & P. Naphthas went into effect January 3, 1928.

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	19.5	3	22.5	26	26
Ft. William	24.5	3	27.5	31	23.5

MANITOBA

Winnipeg	24.5	3	27.5	31	23.5

SASKATCHEWAN

Regina	27.5	0	27.5	32	26.5

ALBERTA

Edmonton	26.5	3	29.5	33	25.5
Calgary	22.5	3	25.5	29	23.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	22

QUEBEC

Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	31	23
Three Rivers	22.5	3	25.5	30	23

NEW BRUNSWICK

St. John	24.5	3	27.5	32	24
Moncton	24.5	3	27.5	32	24

NOVA SCOTIA

Halifax	24.5	3	27.5	32	24
Sydney	24.5	3	27.5	32	24

PRINCE EDWARD ISLAND

Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

New England Jobbers Buying Gasoline for February

Staff Special
NEW YORK, Feb. 4

FAIRLY active gasoline buying by the jobbing trade in northern sections of the Atlantic seaboard this week served as somewhat of a stimulus to markets in which interest has been at low ebb since the first of the year. Most of the buying recorded this week was for deferred shipment. At the same time, a majority of dealers reported spot demand holding fairly steady.

Prices in some districts showed a downward tendency, at least for goods for future delivery. In contrast to this, New England markets displayed an upward reaction from the relatively low price levels that have prevailed in this section for some time past.

The spot market for U. S. Motor gasoline in tank cars at New York harbor held fairly steady at 8 cents this week, at least a careful survey of the market revealed that movements under this price were greatly in the minority. Occasional cars of this grade were sold by resale agents at 7.875 cents, and in some instances slightly lower. Some sellers openly quoted this figure; on the other hand a price of 8.25 cents was asked in some quarters.

Several dealers whose shipments at 8 cents were comparatively large this week reported they were receiving no complaints from their customers and they took this as indication that the shading of this price was by far the exception rather than the rule.

In the Philadelphia market, California gasoline was reduced 0.25 cent for tank car lots. The bulk of this class of goods sold this week went at 8.25 cents although one seller indicated he was getting 8.50 cents for odd cars.

Spot cargoes of California gasoline were offered firm at 6 cents this week, according to reports current in New York.

The price range for regular U. S. Motor gasoline in the Philadelphia district was unchanged at 8 to 8.25 cents although the majority of refiners were quoting the lower figure this week.

Sales of U. S. Motor gasoline in the New England district for shipment over February were reported numerous. Considerable February business was taken by refiners in this district at 7.75 cents to 7.875 cents the last few days in January and prices for spot business were then advanced approximately 0.25 cent. One Boston jobber reported purchasing approximately 20 cars of U. S. Motor over February at 7.75 cents, f.o.b. refinery. Another large Boston jobber purchased a barge load of approximately 500,000 gallons at 7.75 cents delivered. Neither of the two transactions were considered representative of the spot tank car market, however.

In the Providence district, prices were generally unchanged over last week with one refiner quoting 7.75 cents and others asking up to 8.25 cents.

Higher prices in the north Texas area caused several dealers in the southern seaboard markets to advance their quotations for spot business approximately 0.25 cent. At Savannah a minimum of 7.75 cents was quoted for U. S. Motor this week whereas a week ago 7.50 cent goods was being offered in some quarters. Seven and a quarter cent gasoline was no longer available at Jacksonville; majority of dealers were asking 7.50 to 7.75 cents at this point.

Kerosene prices showed relatively few fluctuations this week. Water white goods was no longer available at 7 cents at Baltimore inasmuch as the one refiner in this market offering at this price reported his output sold up. Water white was more freely available at 6.75 cents a gallon in the Philadelphia market; one refiner, however, continued to quote 7 cents.

Gas oil and furnace oil shipments continued steady for the most part; new business was rather spotty, demand rising and falling with the whims of the freakish weather that prevailed. Prices were generally unchanged.

The bunker oil market was unsettled. Standard Oil Co. of New Jersey's posted price for Grade C at New York remained unchanged at $1.35 a barrel, not including lighterage. It was reported a trans-Atlantic liner was bunkered this week at $0.95 a barrel, including lighterage. Bunkers sold at $1.15 a barrel at Philadelphia.

Sales, Inquiries at Gulf Slow Down After Two Active Weeks

Staff Special
NEW YORK, Feb. 4

EXPORT activity at the Gulf subsided somewhat this week. Business placed was small compared to the volume closed the previous two weeks. Fewer definite inquiries were in the market. Prices for the most part were unchanged over those prevailing a week ago with the possible exception of U. S. Motor gasoline.

Early in the week, a Roumanian buyer was seeking approximately 38,000 barrels of U. S. Motor and 64-66, 375 end point gasoline. The order was altered and called for the latter grade alone. It was reported five suppliers quoted 8.125 cents for the business. The inquiry was later withdrawn from the market.

An inquiry from a French account for approximately 63,000 barrels of 64-66, 375 end point gasoline was closed around the middle of the week by a leading Philadelphia refiner at a reported 8.125 cents; it was persistently reported from abroad that a price of 8.09375 cents took the business but the reports were refuted by the seller and confirmation could not be obtained.

Suppliers' ideas of the U. S. Motor market were slightly higher this week. A final survey of the market revealed little if any goods available under 7 cents. One large supplier who reported his stocks of U. S. Motor insufficient to cover business already booked was in the market for approximately 50,000 barrels of this grade and offered 6.875 cents firm with no success. The last transaction closed involving this grade of gasoline was booked at 6.875 cents.

There was little activity reported in the kerosene market and quotations were generally unchanged at 6.50 to 6.625 cents for water white and 5.50 to 5.625 cents for prime white. A slight stiffening in the kerosene market was looked for in some quarters in view of the fact that practically all the available supply in the Mid-Continent was recently taken by one large supplier.

Gas oil was slightly easier at the Gulf. Sales this week were few and prices showed a leveling out tendency. A part cargo of 30-32 gas oil sold at 4.125 cents contingent upon the purchase of a part cargo of fuel oil at a price satisfactory to the buyer.

The bunker oil market was generally unchanged; 14-16 gravity oil in cargoes was available this week at $0.90 a barrel, the same price quoted in the past two weeks for nine gravity. Grade C Oil for bunkering was quoted at around $1.00 per barrel in the New Orleans district and 15 cents higher further west on the Gulf.

Heavy Panuco crude was reported available at $1.05 a barrel at Tampico this week; inquiries for this oil were in the market but no transactions were known to have been closed. Grade C for bunkering at Tampico was quoted at $1.20 a barrel.

Complete Seaboard Market

(Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the years 1924-1925-1926-1927)

Eastern Domestic Market

(Prices for tank car lots, f.o.b. refinery or seaboard terminal, represent majority of quotations and sales.)

	Feb. 6	Jan. 30	Jan. 23
U.S. Motor gasoline, New York harbor	8.00	8.00	8.00 – 8.25
U.S. Motor gasoline, Philadelphia	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, Boston district	8.75 – 9.25	8 00 – 8.50	8.00
U.S Motor gasoline Providence district	8.25 – 8.75	7.75 – 8.25	.....
U.S. Motor gasoline, Baltimore	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, Norfolk	8.25	8.25	8.25
U.S. Motor gasoline, †Wilmington, N. C.	8.25	8.25	8.25
U.S. Motor gasoline, Charleston	8.00	8.00	8.00
U.S. Motor gasoline, Savannah	7.75	7.50 – 7.75	7.50 – 7.75
U.S. Motor gasoline, Jacksonville	7.50 – 7.75	7.25 – 7.75	7.25 – 7.75
California U.S. Motor gasoline, †New York Harbor	8.25	8.25	8.25
California U.S. Motor gasoline, Baltimore	8.50	8.50	8.50
California U.S. Motor gasoline, Philadelphia	8.25	8.50	8.50
Water white kerosene, New York Harbor	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Water white kerosene, Philadelphia	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Water white kerosene, Baltimore	7.25 – 7.50	7.00 – 7.50	7.00 – 7.50
28-34 gas oil, New York harbor	4.50 – 5.00	4.50 – 5.00	4.75 – 5.00
28-34 gas oil, Boston district	4.50 – 5.00	4.50 – 5.00	4.50 – 4.75
38-42 furnace oil, New York harbor	5.75 – 6.00	5.75 – 6.00	6.00
36-40 furnace oil, Boston district	5.75	5.50 – 5.75	5.50 – 5.75
Grade C bunker oil, New York harbor	$1.35	$1.35	$1.35
Grade C bunker oil, Boston district	$1.35 –$1.40	$1.35 –$1.40	$1.35
Diesel oil, New York harbor	$2.10	$2.10	$2.10

Note: Above prices do not include inspection tax levied in some states.

MEDICINAL OILS

Russian 885-890 s.g., 325-330 vis	$0.80 – 0.90	$0.80 – 0.90	$0.80 – 0.90
Russian 870-875 s.g., 150-155 vis	$0.67 – 0.77	$0.67 – 0.77	$0.67 – 0.77
Russian 860-865 s.g., 80-85 vis	$0.65 – 0.75	$0.65 – 0.75	$0.65 – 0.75

†Only one refiner quoting.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are per gal. in bbls. Cylinder oils are Penna. products.)

	Feb. 6	Jan. 30	Jan. 23
U. S. Motor gasoline	23.65	23.65	23.65
43-45, 150 w.w. kerosene	17.90	17.90	17.90
42-44, 110 s.w. kerosene	16.90	16.90	16.90
CYLINDER OILS			
Bright stock, dark	34.00 –35.00	34.00 –35.00	34.00 –35.00
600 D filtered	30.00 –31.00	30.00 –31.00	30.00 –31.00
600 Warren E filtered	23.50 –25.00	23.50 –25.00	23.50 –25.00
600 s.r. unfiltered	16.00 –17.25	16.00 –17.00	16.00 –17.00
650 s.r. unfiltered	18.50 –19.50	18.50 –19.50	18.50 –19.50
600 flash s.r.	20.00 –21.00	20.00 –21.00	20.00 –21.00
630 flash, s.r.	33.00	33.00	33.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00	20.00	20.00
250 vis. No. 6 color	19.00	19.00	19.00
200 vis. No. 6 color	18.50	18.50	18.50
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	24.00	24.00	24.00
180 vis. No. 3¼ color	20.00	20.00	20.00
100 vis. No. 2¼ color	15.75	15.75	15.75
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	35.00	35.00	35.00
500 vis. No. 6½ color	33.00	33.00	33.00
400 vis. No. 7¼ color	31.00	31.00	31.00
300 vis. No. 6 color	30.00	30.00	30.00
200 vis. No. 3¼ color	24.00	24.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70

WAXES (In cents per pound, f.a.s. carload lots)

WHITE CRUDE SCALE (In barrels)

	Feb. 6	Jan. 30	Jan. 23
122-124 A.m.p.	3.125– 3.15	3.125	3.00 – 3.25
124-126 A.m.p.	3.125– 3.15	3.125	3.00 – 3.25
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	3.875– 4.00	3.875– 4.00	3.75 – 4.00
125-127 A.m.p.	4.00	3.875– 4.00	3.75 – 4.00
128-130 A.m.p.	4.125	4.00 – 4.125	4.00 – 4.125
130-132 A.m.p.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
133-135 A.m.p.	*5.25 – 5.50	5.25	5.00 – 5.25
135-137 A.m.p.	*5.50 – 6.00	5.50	5.25 – 5.50
YELLOW CRUDE SCALE			
124-126 A.m.p.	3.00	2.875	2.875

***Prices nominal.**

Gulf Export Market

(F.O.B. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over, except where otherwise noted.)

GASOLINE	Feb. 6	Jan. 30	Jan. 23
U. S. Motor	7.00	6.875– 7.00	6.875– 7.00
60-62, 400 e.p.	*7.625– 7.75	*7.625– 7.75	*7.625
61-63, 390 e.p.	7.875– 8.00	7.875– 8.00	7.875
64-66, 375 e.p.	8.125– 8.375	8.125– 8.375	8.125
U. S. Motor, cases (cargoes)	$1.60	$1.60	$1.60
64-66, cases (cargoes)	$1.75	$1.75	$1.75

***Nominal.**

KEROSENE			
44 water white	6.50 – 6.625	6.50 – 6.625	6.50 – 6.75
41-43 prime white	5.50 – 5.625	5.50 – 5.625	5.50 – 5.75
Water white, cases (cargoes)	$1.55	$1.55	$1.55 –$1.60
Prime white, cases (cargoes)	$1.45	$1.45	$1.45 –$1.50

DOMESTIC GAS & BUNKER OILS			
*26-28 gas oil	4.00 – 4.125	4.00 – 4.25	4.00 – 4.25
*30-32 gas oil	4.00 – 4.25	4.125– 4.25	4.25
Grade C bunker oil	$1.00 –$1.15	$1.00 –$1.15	$1.15
Grade C bunker oil, cargoes	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95

***Translucent thru neck of 4 oz. bottle.**

MEXICAN CRUDE AND BUNKER OILS (F.O.B. Steamer, Tampico)

Heavy Panuco crude taxes to be paid	$1.05	$1.10	$1.10
Grade C bunker oil, for bunkering purposes, taxes paid	$1.20	$1.35	$1.35

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F.; cold test 0) (Tanker, f.o.b. Houston)

100 vis. No. 2 unfiltered pale	6.00	6.00	6.00
200 vis. No. 3 unfiltered pale	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
300 vis. No. 3 unfiltered pale	8.875– 9.25	8.875– 9.25	8.875– 9.25
500 vis. No. 3 unfiltered pale	11.00 –11.25	11.00 –11.25	11.00 –11.25
200 vis. No. 5½ red oil	6.875– 7.25	6.875– 7.25	6.875– 7.25
300 vis. No. 5½ red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
500 vis. No. 6 red oil	9.00 – 9.625	9.00 – 9.625	9.00 – 9.625

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Feb. 6	Jan. 30	Jan. 23
Gasoline, U. S. Motor, 53-55 Gravity	6.00 – 6.50	6.00 – 7.00	6.00 – 6.50
Gasoline, U. S. Motor, blends and special cuts	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Gas Oil, 30-34, per barrel	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
Diesel Oil, 27 plus, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Bunker oil, 14-18, per barrel	$0.80 –$1.00	$0.80 –$1.00	$0.80 –$1.00
Fuel oil, 14-18, per barrel	$0.70 –$1.00	$0.70 –$1.00	$0.70 –$1.00
Kerosene, 38-40 w.w., 125-150 flash, per gal.	4.50 – 5.00	4.50 – 4.75	4.50 – 5.00
Cased Goods			
Gasoline, U. S. Motor	$1.65 –$1.75	$1.65 –$1.75	$1.65 –$1.75
Kerosene, 38-40 w.w., 125-150 flash	$1.35 –$1.45	$1.35 –$1.45	$1.35 – 1.45

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926-1927 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$2.80
Bradford District Oil in National Transit Lines (Bradford District)	2.80
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	2.65
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.60
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.35
Keister Grade in National Transit Lines (Butler Co.)	1.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.50
Corning Grade in Buckeye Pipe Lines (Ohio)	1.55
Corning, O. heavy grade	1.45
*Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.60
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines $1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.57	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.20	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and The Texas Co. on March 14.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields, except these grades posted Nov. 16:

Below 25	$0.90	26-26.9	$1.08
25-25.9	1.06	27-27.9	1.10
Mirando, Tex.			$1.00

Magnolia Petroleum Co.
(In Oklahoma, Kansas and North and East Central Texas)

Effective Sept. 14, Magnolia posted same price schedule as Prairie in above fields and in Panola Co. except that Magnolia is paying $1.05 for all oil below 30 gravity.

Glasscock and Howard Counties	$0.60
Chalkfield (Howard Co.)	$0.80
Iatan district	$0.93
Corsicana heavy	$1.00

Carter Oil Co.
(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Hutchinson Carson and Wheeler Counties..$0.75
Pampa, Gray County, Effective March 14:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Crane, Upton, Crockett and Pecos Counties...$0.60

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana
Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1.10	40-40.9	$1.36
28-28.9	1.12	41-41.9	1.38
29-29.9	1.14	42-42.9	1.40
30-30.9	1.16	43-43.9	1.42
31-31.9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60
*Smackover, below 24			$0.85
* do 24 and above			1.00
Bellevue			1.25
Cotton Valley			.85
**Urania, La			.75
†East El Dorado			1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Smackover prices posted on Nov. 21 by S. O. La., Gulf, Shreveport-El Dorado Pipe Line, Atlantic Oil Producing Co. and Magnolia Pet Co.: on Nov. 23 by The Texas Co.

On Feb. 6, La. Oil Refg. Corp. posted 75c for Smackover below 24, and 90c for 24 and above.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co

Effective March 14

Grades A	$1.20	29-29.9	$1.23
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

California Price War is Cleared Before Majors are Drawn In

Staff Special

LOS ANGELES, Feb. 4

THE gasoline cut price situation in southern California cleared to some extent this week and it is possible that the expected reduction in posted service station and tank wagon prices will be escaped. Independent refiners who started a little war among themselves, bringing about the sale of gasoline at some Independent service stations at 16.50 cents a gallon, including tax, apparently have discontinued several bad practices. If the war among the independents had continued, the majors would have been forced to reduce their prices, or lose many of their customers.

Much of the gasoline moving in tank cars out of the state, has been sold at 7 to 7.50 cents recently, but it is expected that the low will soon be 7.50 cents, and the high as high as 9.50 cents, according to grade and amount purchased. Prices the last two weeks for within state hauls, have been in many instances the same as for out of state movement.

Gasoline for export is firmly pegged at 6 cents up, with most major refiners refusing to quote less than 6.25 cents. These prices apply to U. S. Motor and better grades are quoted higher. The offshore movement of gasoline is encouraging, and shipments are expected to hold up fairly well for several weeks, unless something happens. Under present conditions, California U. S. Motor can be delivered at New York harbor at slightly under 8 cents.

There is no change in fuel oil. The Shell Co. this week contracted to sell the Japanese Navy about 250,000 barrels of fuel oil, at a reported price of $1.42 c.i.f. The tanker rate at present is about 65 cents. The major refiners are doing everything they can to avoid selling their fuel oil at less than 70 cents, net at the harbor. At this price, they are shut off from shipping to East Coast as Gulf prices are too low.

Uncracked gas oil is scarce. One Los Angeles refinery is in the market for a lot of uncracked gas oil for its cracking stills.

Natural gasoline is struggling along, with quotations unchanged, but it was reported that some distress stuff was on the market this week at 6.50 cents. But if a buyer wants a large lot, under a contract, he must pay 7 to 7.50 cents. The major refiners are not buying much Independent natural gasoline these days as most of them have either enlarged their old plants or built new plants until they can manufacture natural gasoline to fill most of their own requirements.

Purchasers, in All Fields (in Effect February 6)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek	29-29.9	$1.14
" "	30-30.9	1.16
" "	31-31.9	1.18
" "	32-32.9	1.20
" "	33-33.9	1.22
" "	34-34.9	1.24
" "	35-35.9	1.26
" "	36-36.9	1.28
" "	37 and above	1.30
Elk Basin		1.33
Grass Creek light		1.33
Big Muddy		$1.25
Lance Creek		1.33
Rock Creek		1.25
Mule Creek		1.30
Rex Lake		1.10
‡Osage		1.33
‡Cat Creek, Mont.		1.33
Sunburst, Mont.		1.50
‡Hogback, N. Mex.		1.38
Artesia, N. Mex.		1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athena-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway, Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	....	.77	.77	.76	.76	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	.85	.79	.79	.77	.77	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	.85	.81	.81	.78	.78	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	.85	.83	.83	.79	.79	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.80	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.86	.87	.87	.81	.81	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.87	.89	.89	.83	.82	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.88	.91	.91	.85	.83	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.89	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.91	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.93	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.95	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.97	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.99	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	1.01	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	1.03	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	1.06	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.09	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.12	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.15	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	....	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders as effective the date shown.

Refiners' Supplies

	Feb. 6	Jan. 30
Soda Ash light 58% bags, cwt.	$1.325	$1.325
Silicate of Soda 60 deg. drums, cwt.	$1.65	$1.50
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums, cwt.	$0.85-0.90	$0.75
Sal Soda wks.	$0.90-1.10	$0.90-1.10
Caustic Soda 75% solid, cwt.	$2.90	$3.00
Chloride of Lime, cwt., wks.	$2.00	$2.00
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks, lb.	$3.75-4.00	4
Litharge, powdered, casks, cwt.	$9.00	9.00

Compounders' Supplies

	Feb. 6	Jan. 30
Vegetable Oils		
Linseed carloads, spot, lb.	9.80	9.80
Tanks, spot	9.00	10.00
Soya Bean, Tanks, coast, lb.	9.75	9.75
Soya Bean, Tank Cars, N. Y. lb.	12.50	12.50
Oleic Acid		
Distilled, tanks, lb.	8.50	8.50
Distilled, bbls., lb.	9.25	9.25
Saponified, tanks, lb.	9.00	9.00
Saponified, bbls., lb.	9.75	9.75
Lard Oils		
Prime Winter Strained, lb.	15.75	15.75
Extra Winter Strained, lb.	13.75	13.75
Extra, lb.	13.00	13.00
Extra No. 1, lb.	12.25	12.25
No. 1, lb.	11.75	11.75
No. 2, lb.	11.25	11.25
Tallow oil, lb.	11.875	11.875
Neatsfoot Oil		
Pure, bbls., lb.	15.75	15.75
Extra, bbls., lb.	12.50	12.50
No. 1, bbls., lb.	12.00	12.00
Cold Pressed, lb.	18.50	18.50

Fish Oils	Feb. 6	Jan. 30
Menhaden Oil		
Light Pressed, gal.	60–62	60–62
Light Pressed, tank cars, N. Y. gal.	52–53	52–53
White, gal.	66–68	66–68
Yellow bleached, gal.	63–65	63–65
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam distilled turpentine, N. Y., gal.	55	55
Steam distilled turpentine, Savannah, gal.	50	50
Gum turpentine, N. Y., gal.	60.50	60.50
Gum turpentine, f.o.b. cars Savannah, gal.	55.50	55.50
Wood Rosin F, N. Y., bbl.	$7.80	$9.80
Wood Rosin F, Savn'h., bbl.	$7.00	$7.00
Gum Rosin B, N. Y., bbl.	$8.75	$9.10
Gum Rosin B, f.o.b. cars Savannah, bbl.	$7.95	$8.30
Rosin oil, pure, gal.	55	55
Rosin oil, compounded, gal.	47	47
Pine Tar		
Kiln burnt, bbl.	*$13.00	*$13.00
Retort, bbl.	$16.00	$16.00

*Nominal.

Crude Price Change

By Telegraph

SHREVEPORT—On Feb. 6 Louisiana Oil Refining Corp. reduced Smackover crude 10 cents per barrel, making new prices: 24 and above, 90 cents; and below 24, 75 cents. Last previous change was 5 to 15 cent cut on Nov. 19.

S. W. Pa. and Eureka Pipe Lines Increase Earnings in 1927

CLEVELAND, Feb. 6

IMPROVEMENT in earnings of both the South West Pennsylvania Pipe Lines and Eureka Pipe Line Co. is reported for 1927. Profit of the South West Pennsylvania lines was approximately 50 per cent more last year than in 1926. The Eureka turned from a small loss in 1926 to a small profit last year.

South West netted $10.35 a share on the 35,000 shares of $100 capital stock last year, compared with $7.12 a share in 1926. Eureka netted only 9 cents a share on its 50,000 $100 shares in 1927 compared with a loss of 27 cents a share in 1926. Eureka last year appropriated $304,952 to its depreciation account. All its dividends were from earnings prior to March 1, 1913, according to Forrest M. Towl, president.

Mr. Towl announced the company was seeking an increase in its gathering charges from 30 to 35 cents a barrel. The latter price is charged by the Buckeye Pipe Line Co. in southeastern Ohio. The Eureka operates just across the Ohio river from the Buckeye in West Virginia.

Mr. Towl reported it had been estimated that $554,237 would be required to take care of present annuitants and $1,325,044 would be required to care for present employes when and if they retire. For the South West funds required for annuities have been estimated at $199,338 for present annuitants and $495,048 for present unretired employes when and if they retire.

Although Mr. Towl makes no comment on the increased earnings of the South West it is likely the movement of cheap Mid-Continent crude oil eastward greatly improved this company's earnings. It is a link in the transcontinental pipe line chain.

Condensed income accounts of the South West Pennsylvania Pipe Lines of the last two years compare:

	1927	1926
Profits	$362,289	$249,362
Dividends	210,000	140,000
Surplus	$162,289	$109,362

Balance sheets of South West as of Dec. 31, 1926 and 1927, compare:

ASSETS

	1927	1926
Plant	$4,454,696	$4,215,876
Depreciation	2,352,899	.....
Net plant	$2,101,797	.....
Railroad bonds	1,002,016	†1,690,672
U. S. securities	891,219	.....
First Mortgage	5,000	.....
Accounts receivable	188,600	185,777
Cash	43,508	211,151
Total	$4,232,140	$6,303,476

†Includes all investments.

LIABILITIES

Capital stock	$3,500,000	$3,500,000
Accounts payable	92,253	106,503
Profits and loss	639,887	487,598
Depreciation	.....	2,209,375
Total	$4,232,140	$6,303,476

Condensed income accounts of Eureka Pipe Line Co. for last two years compare:

	1927	1926
Net income	$ 4,602	*$ 13,673
Dividends	200,000	200,000
Deficit	$195,398	$213,673

*Loss.

Balance sheets of Dec. 31 of Eureka compare:

ASSETS

	1927	1926
Plant	$11,453,782	$10,943,487
Depreciation	6,219,711	.....
Net plant	$ 5,234,071	.....
U. S. securities	1,075,956	†2,308,144
Railroad bonds	829,312	.....
Accounts receivable	260,484	285,855
Cash	317,848	243,216
Total	$ 7,717,671	$13,785,702

†Includes all investments.

LIABILITIES

Capital stock	$ 5,000,000	$ 5,000,000
Accounts payable	299,557	257,432
Profit and loss	2,418,114	2,613,512
Depreciation	.....	5,914,758
Total	$ 7,717,671	$13,785,702

Calpet-Texas Exchange Expires March 3

NEW YORK, Feb. 6.—Details of the exchange of The Texas Corp. stock for California Petroleum Corp. stock in the merger proposal announced last week, were announced this week by Jacques Vinmont, president of Calpet, as follows:

"Blair & Co., Inc., has been designated as depositary to receive deposits of California Petroleum Corp. stock, and American Exchange-Irving Trust Co. of New York has been designated registrar of certificates of deposit to be issued by Blair & Co.

"Deposits may be made with the depositary on and after February 4 and until and including March 3. Application will be made to list the certificates of deposit on the New York Stock Exchange."

California Petroleum stockholders of Feb. 3 record, it was announced, will receive the regular 25-cent quarterly dividend March 1 and if the merger goes through they will participate in the 75-cent quarterly dividends of The Texas Corp. from and after April 2. The merger is contingent upon the depositing of 51 per cent of the Calpet stock for exchange for Texas Corp. stock on a basis of 2 for 1.

Cosden Reported Forming New Oil Company

NEW YORK, Feb. 6.—Joshua S. Cosden is reported to be organizing a new oil company which will be known as Cosden & Co. and which will have $5,000,000 capital at the start. The name is the same as the company which passed from Mr. Cosden's control in the depression that followed the post war boom and which is now the Mid-Continent Petroleum Co.

It is said in New York that no stock in the new Cosden Co. will be offered the public but will be taken up by Mr. Cosden's friends. Two years or so ago Mr. Cosden sold his Port Washington, L. I., estate at which the Prince of Wales was entertained on the prince's last visit to the United States, and still later he disposed of his villa at Palm Beach, Fla.

S. O. New Jersey Forms Specialty Company

NEW YORK, Feb. 4.—Standard Oil Co. of New Jersey has organized a new corporation styled the Stanco Products Co. to handle its specialties such as Nujol and Flit. The new company has a capital stock of $10,000,000. Its formation is a further carrying out of the Standard's plan to segregate its operating departments from the parent holding corporation.

F. H. Bedford Jr., who is a director of the holding company, is president of the Stanco company. C. L. Bowman and A. J. Van Wynan are vice-presidents. The board of directors includes these three and C. L. Johnson, John Wolke, A. C. Stone, Frank Abrams and A. A. Lacazette.

South Penn Oil Co.—John L. Hays has been elected secretary and R. W. Cummins counsel at annual meeting. Other officers were re-elected.

Transactions in Oil Shares on New York Stock Exchange

1927 High	1927 Low	1928 High	1928 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Feb. 4 Sales	First	High	Low	Last	Change
37⅞	27⅝	32⅝	29¾	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Jan. 31, 28	14,200	31⅝	31¾	†29¾	30	— 1⅛
82½	35⅛	76½	55⅜	(sh) 209,180	N.P.	American Republics Corp.	.....	.....	15,400	63⅛	63⅛	†55⅜	57	— 7⅛
50¼	35	41¾	38½	$56,000,000	$ 25	Associated Oil.	50cQ	Dec. 24, 27	370	40	40	†38½	38½	— ½
131⅜	104	109¾	97½	50,000,000	100	Atlantic Refining	$1Q	Dec. 15, 27	35,100	106	108⅜	†97½	100	— 6½
119	115¼	118¼	116	20,000,000	100	do pfd	$1.75Q	Feb. 1, 28	100	116¾	116¾	116¾	116¾	+ ⅛
35½	20¾	26½	24⅜	28,558,150	25	Barndsdall Corp. A	s62½cQ	Feb. 6, 28	22,800	24½	24½	23⅜	23½	— 1
32½	20½	25¾	25¾	952,575	25	do B	s62½cQ	Feb. 6, 28	.....	.....	.....	.....	.....	.....
32⅛	20	26⅞	24	51,524,150	25	California Petroleum	25cQ	Dec. 1, 27	30,500	26	26⅛	25¼	25½	— ½
96¾	65	93¼	80½	20,665,000	100	General Asphalt	.....	.....	32,800	84½	87⅜	†80½	82	— 3½
144⅛	107¼	140¼	126	6,872,200	100	do pfd	$1.25Q	Dec. 1, 27	500	129	130	129	129	— 1
175¾	60⅛	156⅛	138⅛	25,000,000	100	Houston Oil	.....	.....	26,400	147	149	†138⅛	140	— 7¼
32¾	17⅝	28¼	25⅛	(sh) 500,000	N.P.	Independent Oil & Gas	25cQ	Jan. 30, 28	8,700	26	27	25½	25½	— ¾
12⅛	7⅝	12⅝	9¾	$3,280,240	$10	Indian Refining	.....	Dec. 15, 20	2,300	11	11	10⅝	11	— ¼
12	7¼	10⅜	8⅞	4,550,110	10	do ctfs	.....	.....	5,600	9¾	9⅞	9⅝	9⅝	— ⅜
112	99	109	101	2,296,400	10	do pfd	.....	Dec. 15, 21	300	106	106	105	105	— 1
37¾	20½	35⅞	32	(sh) 3,992,122	N.P.	Lago Oil & Transport	75cQ	Nov. 1, 27	16,900	33¾	34¾	†32	32	— 1¾
18⅛	10	12¾	10½	(sh) 1,136,500	N.P.	Louisiana Oil Refining	.....	.....	3,600	11	11⅛	10¾	10¾	— ⅜
97	85¼	91	89½	$4,000,000	$100	do pfd	$1⅛Q	Nov. 15, 27	.....	.....	.....	.....	.....	.....
22¾	12	18⅛	15¼	(sh) 330,000	N.P.	Maracaibo Oil	.....	.....	1,000	16	16½	†15¼	15¼	— ¾
58½	31	37½	34⅝	(sh) 2,316,647	N.P.	Marland Oil Co.	.....	Mar. 31, 27	49,300	36⅛	36⅞	34⅞	35⅛	— 1
320	200	360	320	$45,942,800	$100	Mexican Petroleum	$3Q	Jan. 20, 28	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	12,000,000	100	do pfd	$2Q	Jan. 20, 28	.....	.....	.....	.....	.....	.....
9¼	3	5⅜	4⅛	(sh) 945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	11,600	5⅛	6¾	5	5½	+ ½
39⅜	25½	29½	26¼	(sh) 1,357,461	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	11,500	28	28⅛	†26¼	26¾	— 1¼
105	97	105½	104	$6,718,000	$100	do pfd	$1.75Q	Dec. 1, 27	200	105½	*105½	105½	105½	— ⅜
3¾	1⅝	3⅝	2⅝	24,354,600	10	Middle States	.....	July 1, 23	21,100	3	3⅛	2⅞	2⅞	0
2¾	1⅛	2¾	1⅛	5,445,620	10	do ctfs	.....	.....	3,300	2	2	1¾	1¾	— ¼
1½	1	1⅝	1¼	(sh) 3,500,000	N.P.	Pacific Oil	.....	.....	7,300	1½	*1⅝	1½	1½	— ⅛
65⅞	40¼	46¾	41⅛	$48,807,400	$ 50	Pan American P. & T.	.....	Oct. 20, 27	1,600	41¾	42½	†41⅛	41¼	— ¼
66⅜	40¼	46¾	42	121,097,100	50	do B	.....	Oct. 20, 27	25,000	42⅜	43¼	†42	42	— ½
37⅞	16¾	21	19⅛	(sh) 400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	4,900	19½	20⅜	19⅛	19⅜	+ ¼
18⅞	8	16½	14⅝	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	2,000	15½	16⅛	15⅛	15⅜	+ ⅛
83	54	81	77½	$2,935,200	$100	do pfd	.....	July 2, 23	100	77½	77½	†77½	77½	— ½
60¼	36¼	43½	39⅛	(sh) 2,406,796	N.P.	Phillips Petroleum	75cQ	Jan. 3, 28	103,100	41⅜	42½	†39⅛	39½	— 2
1⅛	½	¾	⅝	$29,622,925	$ 25	Pierce Oil Corp.	.....	.....	1,400	⅝	¾	⅝	¾	+ ⅛
24	13½	20½	19½	15,000,000	100	do pfd	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
5½	2½	4⅜	3⅝	(sh) 2,500,000	N.P.	Pierce Petroleum	.....	.....	3,000	3¾	4	†3⅝	3⅞	— ⅛
33⅞	16¾	26	22¼	$37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	5,500	23¾	24	†22¼	22¼	— 1¾
50	36⅞	45	41¾	2,845,350	50	do pfd	.....	May 1, 25	810	44	44½	43⅛	43½	— 1
33½	25	27½	19	75,959,250	25	Pure Oil Co.	37½cQ	Dec. 1, 27	153,800	25⅛	25¼	†19	20¾	— 4⅜
115½	111⅜	.....	.....	13,000,000	100	do 8% pfd	$2Q	Jan. 2, 28	100	112	112	112	112	— ¼
54½	44¼	48¾	44⅝	(sh) 611,303	13.40	Royal Dutch, N. Y. shares	$1.343	Jan. 28, 28	6,600	44⅞	47⅜	44⅞	46½	+ 1¾
47⅞	41⅜	42⅞	40⅝	(sh) 77,590	£2	Shell Transport & T.	97c	Jan. 23, 28	100	40⅝	40⅝	†40⅝	40⅝	+ 1¼
31¾	24⅝	26⅞	24⅞	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	Dec. 31, 27	13,600	25½	25⅝	†24⅞	25	— ¼
26⅜	14¼	24⅜	20¾	$7,208,080	$ 10	Simms Petroleum	.....	Apr. 1, 27	5,800	22⅛	22½	†20¾	20¾	— 1½
22⅜	15	21¼	18	(sh) 4,501,915	N.P.	Sinclair Consolidated	.....	May 31, 24	51,500	19⅞	20⅛	†18	18⅛	— 1½
104½	97	108	102½	$16,604,600	$100	do pfd	$2Q	Nov. 15, 27	200	107	107	104½	104½	+ ¼
37⅜	24⅛	28¼	25⅝	27,396,590	25	Skelly Oil Co.	50cQ	Dec. 15, 27	11,700	27⅛	27⅜	†25⅝	26⅛	— 1
60¼	50⅜	56⅝	54⅛	(sh) 13,016,434	N.P.	S. O. California	62½cQ	Dec. 15, 27	12,700	55	55	†54⅛	54⅛	— 1¼
41⅜	35⅛	40¼	38⅞	$607,605,400	$ 25	S. O. New Jersey	‡25cQ	Dec. 15, 27	40,700	39⅝	39⅞	39	39¼	— ¼
34⅛	29¾	31⅜	29¼	426,973,275	25	S. O. New York	40cQ	Dec. 15, 27	57,400	29⅞	29⅞	†29¼	29½	— ¼
34⅞	30	38	31½	(sh) 1,206,073	N.P.	Sun Oil	‡25cQ	Dec. 15, 27	5,900	36⅞	37	35	35	— 1⅞
101⅝	99	101½	100	$5,000,000	$100	do pfd	$1.50Q	Dec. 1, 27	100	101	101	101	101	— ½
6½	3⅛	3⅞	3⅛	(sh) 1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	4,100	3¼	3⅜	†3⅛	3⅛	— ⅛
58	45	55⅜	52¼	$180,464,200	$ 25	The Texas Corp.	75cQ	Jan. 1, 28	82,600	53½	53½	†52¼	52⅜	— ¾
18⅞	12	17	14	8,380,340	10	Texas Pacific Coal & Oil	15cQ	Jan. 3, 28	17,600	14⅞	15⅜	14¼	14½	— ½
29⅛	19	22¼	20¼	(sh) 2,168,404	N.P.	Tide Water Oil Co.	20cQ	Dec. 31, 27	1,000	20⅞	20⅞	†20¼	20¼	— ⅜
90⅛	85	90¾	87	$20,705,200	$100	do 5½% pfd	$1.25Q	Nov. 15, 27	200	89	89	89	89	— ½
19⅛	15¾	17¼	15⅞	(sh) 4,796,101	N.P.	Tide Water Associated	.....	Aug. 1, 27	9,300	16⅜	16⅜	†15⅞	15⅞	— ½
90¾	85	87¾	85¼	$72,745,900	$100	do pfd	$1.50Q	Jan. 3, 28	400	85½	85¾	†85¼	85¾	— ¼
10⅜	3¼	10⅛	8	(sh) 3,742,029	N.P.	Transcontinental Oil	.....	.....	58,400	8¾	9	†8	8⅛	— ¾
56½	39⅝	45¼	43	$407,777,750	$ 25	Union Oil of California	50cQ	Feb. 10, 28	6,800	43½	44	†43	43	— ⅞
127½	94	125	119¼	30,844,000	100	Union Tank Car Co.	$1.25Q	Dec. 1, 27	500	120	121	120	120	— 5
34½	24½	32⅞	30⅛	(sh) 240,380	N.P.	Warner Quinlan	50cQ	Jan. 3, 28	10,400	30⅝	32¾	30⅝	31	0
27½	20	24¼	20½	(sh) 490,000	N.P.	White Eagle Oil & Refining	25cQ	Jan. 20, 28	1,300	22	22	20⅞	22	0

*New High †New Low ‡Also extras s-Stock Total Sales 1,021,0<0

Oil Dividends

	Amount	Payable	Stock of Record
Ark. Nat. Gas q.	12c	Mar. 31	Feb. 24
California Pet. q.	25c	Mar. 1	Feb. 3
Gen. Asphalt pfd. q.	$1.25	Mar. 1	Feb. 14
Imperial Oil q.	25c	Mar. 1	.....
do extra	12½c	Mar. 1	.....
S. O. California q.	62½c	Mar. 15	Feb. 15
Swan-Finch pfd q.	43¾c	Mar. 1	Feb. 10
West. Oil & Ref. pfd. s.a.	4%	Mar. 15	Feb. 15

Cleveland Stock Market

February 4

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	.....	.....	.....
do pfd.	100	100	.....	100
Fred G. Clark	10	2⅝	3½	2⅝
National Refining Co.	25	36⅛	37½	36½
do pfd.	100	132	135	130½
Paragon Refining Co.	25	10½	11	10¾
do pfd.	100	105	110	107

x Ex-Dividend

PITTSBURGH STOCK EXCHANGE

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended February 3 Sales	First	High	Low	Last	Change
9⅞	6⅞	9½	8½	$ 10	Arkansas Nat. Gas.	4,205	8⅞	9	†8½	8½	— ⅜
98⅝	80⅞	94	92	100	Columbia Gas.	50	94	*94	94	94	+ 2
107⅞	100	.....	.....	100	do pfd.	.....	.....	.....	.....	.....	.....
15	7½	10	7½	10	Devonian Oil.	210	10	*10	7½	8½	+ ½
117½	115	115½	115	100	Duquesne Light pfd.	.....	.....	.....	.....	.....	.....
12¼	6	13	12	N.P.	Houston Gulf Gas.	1,025	12	12	12	12	0
59¼	37¼	55	52½	$ 25	Lone Star Gas.	2,540	53⅞	*55	53½	55	+ 1¼
3⅞	3	4	3¼	5	Pittsburgh Oil & Gas	177	4	*4	x3¼	3¼	— ¼
8	5½	7¼	6¾	10	Salt Creek Cons.	.....	.....	.....	.....	.....	.....
26½	17	20	19⅞	10	Tidal Osage	.....	.....	.....	.....	.....	.....
43	33	33¼	33	N.P.	Waverly Oil Wks. A	.....	.....	.....	.....	.....	.....

PITTSBURGH CURB EXCHANGE

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended February 3 Sales	First	High	Low	Last	Change
....	....	....	....	$ 5	Duquesne Oil.	.....	.....	.....	.....	.....	.....
95	88	....	....	25	Gulf Oil.	.....	.....	.....	.....	.....	.....
10¾	5½	5⅞	5⅜	25	Leonard Oil & Dev.	.....	.....	.....	.....	.....	.....
2.70	.30	1.00	.50	10	Omar Oil & Gas.	2,000	.75	.80	.75	.80	+ .05
2¼	1¾	21¼	20	5	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
31	19	21	20	5	Plymouth Oil.	.....	.....	.....	.....	.....	.....
6	5	....	....	5	States Oil.	.....	.....	.....	.....	.....	.....
3⅛	1½	3⅛	3	1	Texon Oil & Land.	2,500	2⅛	2⅛	2¾	2¾	— ⅜
23¾	18	2⅛	2¾	10	Tidal Osage Non-vgt.	.....	.....	.....	.....	.....	.....

*New High †New Low xEx-Dividend.

Standard Oil Stocks on New York Curb

1927 High	1927 Low	1928 High	1928 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Feb. 4 Sales	First	High	Low	Last	Change
21⅝	17⅛	21¾	18¼	£ 4,126,460	£ 1	Anglo-American Oil	60¼c	May 31, 27	7,300	20	21	19¾	20½	+ ½
21½	17⅝	20½	18⅛	.....	£ 1	do cts. non-voting	.....	.....	2,000	19⅜	19⅞	19⅜	19⅞	+ ⅝
3¾	⅞	1⅞	1½	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	500	1½	1½	1½	1½	0
6½	2½	3½	3½	$ 10,000,000	$ 50	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
69	50	56	55	1,000,000	25	Borne Scrymser	‡$1S.A.	Oct. 15, 27	50	55	55	55	55	0
60	45	63	58	10,000,000	50	Buckeye Pipe Line	$1Q	Dec. 15, 27	1,000	63	63	62	62⅜	— ⅛
126	76½	149¾	117¼	3,000,000	25	Chesebrough Mfg	$1Q	Dec. 28, 27	.....	.....	.....	.....	.....	.....
22⅝	16¼	22½	19⅝	36,057,840	10	Continental Oil	25cQ	Dec. 15, 27	10,000	20½	20½	19⅜	19⅜	— 1⅛
137	89	105	94	3,000,000	100	Cumberland Pipe Line	$2Q	Dec. 15, 27	1,150	96	105	96	103	+ 7
68½	47	70	64½	5,000,000	100	Eureka Pipe Line	$1Q	Feb. 1, 28	250	69	69	67	67	— 2
13½	3½	6½	5½	16,000,000	100	Galena Signal Oil	.....	June 30, 25	.....	.....	.....	.....	.....	.....
59¾	23	36	27	4,000,000	100	do new pfd	.....	June 30, 26	70	35	36	35	35	+ 5
60½	35½	41¾	35	2,000,000	100	do old pfd	.....	June 30, 26	10	40	40	40	40	0
68½	54	68	64	73,117,577	25	Humble Oil & Refining	‡30cQ	Jan. 1, 28	9,900	65½	66	64	64	— 1¼
182	123¾	185½	176½	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 15, 27	450	183½	183½	183¼	183½	0
64¾	37¾	65¼	59	(sh) 6,458,267	N.P.	Imperial of Canada	‡25cQ	Dec. 1, 27	3,010	61½	61½	60½	60½	— ⅝
94½	61	78¾	75	$5,000,000	$ 50	Indiana Pipe Line	†$1Q	Nov. 15, 27	200	75½	75½	75	75	— ½
39	28¼	43	36	(sh) 17,123,444	N.P	International Petroleum	25c	Nov. 15, 27	26,600	39½	40⅜	38¼	38¼	— 1
24	13¼	23	20½	$6,363,350	12.50	National Transit Co	25cQ	Dec. 15, 27	8,900	21	23	20¾	22⅜	+ 1⅜
44½	31¾	48	37½	5,000,000	100	New York Transit	.....	July 15, 26	700	46¾	48	46¾	47	— ½
100	70	102⅝	94	4,000,000	100	Northern Pipe Line	‡$3S.A.	Jan. 1, 28	1,450	97	102⅝	97	102½	+ 3½
67⅞	52	66¾	63½	60,000,000	25	Ohio Oil Co	‡50cQ	Dec. 15, 27	2,200	64½	64⅞	63½	63½	— 1⅛
39	12	39⅜	36	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	2,800	38	39	38	39	+ ¼
55½	45⅝	50½	48¼	60,000,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	1,700	49¾	49¾	48¼	48¼	+ ¾
190	132	187½	184	81,000,000	100	Prairie Pipe Line	$2.50Q	Feb. 1, 28	1,050	185½	187½	185½	186½	+ 1
201½	175½	178	175	4,000,000	100	Solar Refining	$5S.A.	Dec. 20, 27	20	177½	177½	177½	177½	— ½
27¼	15½	33½	21	5,000,000	50	Southern Pipe Line	$2	Dec. 1, 27	6,700	32	32½	30	30	— 1⅜
41½	35	40⅜	36¾	20,000,000	25	South Penn Oil	50cQ	Dec. 31, 27	1,000	39	38½	38	38	— 1
83	55⅛	86	70	3,500,000	100	South West Pa. Pipe Lines	‡$1Q	Dec. 31, 27	350	85	88¾	85½	88½	+ 3½
81⅛	64⅝	80½	77⅜	228,415,463	25	S. O. Indiana	‡62½cQ	Dec. 15, 27	12,800	77⅞	78⅜	77⅜	77⅞	+ ⅛
20⅛	14⅜	17½	15	8,000,000	25	S. O. Kansas	.....	June 16, 24	600	16½	16½	15⅞	15⅞	+ ¾
130	111½	132¾	124	17,012,559	25	S. O. Kentucky	$1Q	Dec. 31, 27	4,300	127⅝	128	124⅛	124¾	— 3⅛
49½	40	43	41½	4,559,850	25	S. O. Nebraska	62cQ	Dec. 20, 27	600	42⅝	42⅝	41½	41½	— 1½
87½	72	79	75	14,000,000	25	S. O. Ohio	62½cQ	Jan. 2, 28	850	76½	76½	75	75	— 1½
122	117¼	120¼	120	7,000,000	100	do pfd	$1.75Q	Dec. 1, 27	10	120	120	120	120	0
21	14½	17¾	17	30,734,000	25	Swan Finch Co	.....	Nov. 1, 19	.....	.....	.....	.....	.....	.....
149⅞	95⅛	148½	139	62,470,800	25	Vacuum Oil	‡50cQ	Dec. 20, 27	6,800	146	148¼	143⅜	144¾	— ¼

*New high †New low xEx dividend ‡Also extras

New York Curb Bonds

Week Ending Feb. 3rd

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	103	102¼	102¾	0
Cities Serv. 5s '66	91¾	90¾	91¾	+1
Cities Serv. 6s '66	103	103	103	0
Cities Serv. G5½s '42	94¾	94⅝	94¾	+ ⅛
Empire Oil 5½s '42	98⅛	98	98½	+ ¼
Galena S. O. 7s '30	90	89⅞	90	+ ⅛
Gulf Oil 5s '47	102	101½	101¾	— ¼
Gulf Oil 5s '37	102	101¾	102	+ ⅛
Independent Oil 6s '39	99½	98½	98⅞	— ¼
Phillips Pet. 5¼s '39	94⅞	94¼	94¼	— ⅜
Richfield Oil 6s '41	99	98½	98¾	+ ¼
S. O. N. Y. 6½s '33	104	103¾	104	0
Sun Oil 5½s '39	102¼	102	102	+ ¾
Trans. Con't. Oil 7s '30	112½	110½	110½	—2
Valvoline 7s '37	105¼	105¼	105¼	— ¾
Warner-Quin. 6s '42	100⅝	99	100	+ ¾

New York Bonds

Week Ending Feb. 3rd

	High	Low	Last	Ch'ge
Amer. Rep. deb. 6s	102¾	102¾	102¾	+ ¼
Assoc. Oil gold 6s	103	102¾	103	0
Atlantic Refg. deb. 5s	103½	103	103	0
Barnsdall Corp. 6s	101⅞	100½	100½	—1½
Barnsdall Corp. 8s ex-war	91⅞	91½	91½	— ¼
Cal. Pet. 5s	100⅝	100	100¼	— ¼
Cal. Pet. 5½s	102⅜	102	102	0
General Asphalt 6s	113½	113	113½	—1
General Petroleum 5s	102⅜	102	102	— ⅜
Humble Oil & Refg. 5½s	103	102⅞	103	+ ⅛
Humble Oil 5s	101½	100⅜	100⅜	+ ¼
Mid-Cont. Pet. 6½s	105½	105⅜	105½	+ ¼
Mid-Cont. Pet. 6s	93½	93¼	93¼	— ¼
Mid-Cont. Pet. 6s cvt	103¼	103	103	— ⅜
Pierce Oil deb. 8s	105	105	105	0
Prod. & Refnrs. 8s	112⅛	112	112	0
Simms Pet. cvt. 6s	106	104½	106	—2
Sinclair Con. Oil Co. 7s	100⅜	100⅛	100⅜	— ¼
Sinclair Con. Oil con. 6½s	98⅜	97½	98	0
Sinclair Con. Oil 6s D	99	98¾	98¾	— ¼
Sinclair Pipeline 5s	85½	85⅜	85¼	— ⅜
Skelly Oil 5½s	95⅜	95	95	— ⅜
S. O. N. Y. 6½s	98	97⅝	97⅞	0
S. O. N. J. deb. 5s	104	103⅜	103½	+ ⅜
Union Oil of Calif. 6s A	110⅜	110⅜	110⅜	+ ⅝
Union Oil of Calif. 1st 5s	102	101⅞	102	0
Union Oil of Calif. 5s C	100	99½	99½	— ½
White Eagle 5½s	96⅛	95¼	95¼	— ¾

Independent Oils on New York Curb

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended Feb. 4 Sales	First	High	Low	Last	Change
2⅞	.55	1½	.82	$ 5	Amer. Con. Oilfields	189,000	1¼	1½	1⅛	1¼	0
7½	2¾	4⅞	3½	N.P.	Amer. Maracaibo	3,400	3⅞	4	3¾	3¾	— ⅛
2¾	1	4	2⅞	$ 10	Argo Oil	.....	.....	.....	.....	.....	.....
9¾	6¾	9⅞	8⅝	10	Arkansas Nat. Gas	1,200	8⅞	8⅞	8⅝	8⅝	— ¼
20½	15½	.....	.....	N.P.	Beacon Oil	.....	.....	.....	.....	.....	.....
40	20½	39¾	38	N.P.	British American	300	38	38⅛	38	38⅛	+ ⅛
28¼	15½	23⅞	18½	25c	Carib Syndicate(new)	2,500	22	22¾	21	22	+ ¼
26	15⅛	.....	.....	.....	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
58¾	40¼	56	54	$ 20	Cities Service	22,000	55⅜	55⅜	55⅛	55¼	— ⅛
95⅝	87	95¼	94½	100	do pfd	600	95	95¼	95	95¼	+ ⅛
8⅞	7⅜	9⅛	8⅜	10	do pfd. B	200	8⅞	9⅛	8⅞	9⅛	+ ¼
29¼	22½	.....	.....	10	do banker's shares	.....	.....	.....	.....	.....	.....
3⅞	1⅛	1⅜	1½	1	Colombia Syndicate	10,100	1⅜	1¾	1½	1½	— ⅛
9¾	6⅝	7⅞	7	10	Consolidated Royal	100	7	7	7	7	— ⅛
14⅞	9½	12⅝	10	N.P.	Creole Syndicate	19,000	11⅝	11¾	11	11⅛	— ½
3	.50	1½	.80	N.P.	Crown Central	200	1⅛	1⅛	1	1	— ⅛
12	4	10	8⅛	N.P.	Darby Petroleum	900	9	10	8⅛	10	+ 1¼
11½	4	10⅞	7⅞	....	do trust ctfs	200	9	10⅞	7⅞	10⅞	+ 1⅛
2½	.74	1⅞	1	N.P.	Derby Oil & Refining	200	1	1⅞	1	1⅞	+ ⅛
16¾	4	.....	.....	N.P.	do pfd	100	7½	7½	7½	7½	0
3¾	1	2	1½	N.P.	Gibson Oil	9,300	1⅝	1¾	1½	1⅝	— ⅛
2	.40	.53	.51	N.P.	Gilliland ctfs	500	51	51	51	51	0
118	86¼	117¾	110¾	$ 25	Gulf Oil Corp	5,000	112½	112½	111	112½	0
2½	.80	2	1½	10	Intercontinent Pet	5,800	1⅝	1¾	1½	1¾	0
2¼	1¼	1⅞	1¼	N.P.	Kirby Petroleum	100	1⅝	1⅝	1⅝	1⅝	0
10⅜	5⅜	6⅝	5⅜	N.P.	Leonard Oil & Dev	8,800	5⅜	5⅞	5⅜	5⅞	0
27½	20	23	22	N.P.	Lion Oil & Refg	1,000	22¼	22⅝	22¼	22½	+ ¼
59⅝	37	54	52½	$ 25	Lone Star Gas	3,200	53	54⅞	53	54⅞	+ 1⅞
2⅞	.80	1⅛	1⅛	1	Magdalena Synd	4,300	1⅜	1½	1¼	1⅜	— ⅛
21½	20⅞	22⅝	22⅛	N.P.	Manhattan Oil	.....	.....	.....	.....	.....	.....
52	12	45	41½	N.P.	Margay Oil	800	43	43	41½	41½	— 2½
3	1½	.....	.....	$ 10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
12⅛	5	6⅝	5½	N.P.	Mexico-Ohio Oil	200	5¾	5¾	5½	5½	— ⅛
1½	1	1⅝	1⅜	$ 1	Mountain & Gulf	400	1⅜	1⅜	1⅜	1⅜	+ ⅛
29¼	22¾	28⅝	26⅝	10	Mountain Producers	9,300	27	27½	26⅝	26⅞	+ ⅛
5⅞	4⅝	5⅝	5⅛	5	New Bradford	700	5⅜	5⅝	5⅛	5⅛	— ¼
6¾	4	.....	.....	10	New England Fuel	100	4¾	4¾	4¾	4¾	— 1¼
16	9¾	9⅞	8½	1	New Mex. & Ariz	900	9	9	8½	8½	— ½
13⅞	9	14¼	11½	25	New York Oil	400	13	13	12¾	12¾	— ⅛
12⅝	9½	12⅜	10¾	N.P.	North Cent. Texas	500	12⅛	12⅛	11¾	12	— ⅛
23⅞	21¾	.....	.....	.....	Okla. Nat. Gas ctfs	.....	.....	.....	.....	.....	.....
9⅜	3¼	6	4¼	N.P.	Pandem	28,000	5½	6	5	5¾	+ ⅛
12⅛	7	10⅞	8¾	N.P.	Panapec Oil	18,600	9⅞	10⅜	9¾	9¾	— ⅛
9	7⅝	11⅜	10⅝	$ 25	Paragon Refg	200	10¾	11	10¾	11	+ ⅛
37	25	.....	.....	N.P.	Peer Oil Corp	.....	.....	.....	.....	.....	.....
13½	5⅜	6⅜	6⅜	$ 10	Pennok Oil	300	6⅛	6⅛	6	6	— ⅜
.....	.....	4⅜	3⅛	5	Pittsburgh Oil & Gas	400	3⅜	3⅞	3⅝	3⅞	+ ⅝
24⅜	7	12	12	25	Red Bank Oil	100	12	12	12	12	0
15½	3½	5½	5	N.P.	Reiter-Foster	2,200	5	5⅝	5	5¼	— ¼
28⅜	15	25½	24½	$ 25	Richfield Oil	.....	.....	.....	.....	.....	.....
7	4½	5⅝	4⅞	N.P.	Ryan Consolidated	500	5⅜	5⅜	5⅛	5⅛	+ ⅛
8	5½	7¼	7	$ 10	Salt Creek Cons	300	7⅛	7⅛	7	7	— ⅛
35½	27¼	35	32⅜	10	Salt Creek Prod	1,500	32⅞	33	32⅜	32⅜	— ⅜
7	1¾	2	2	5	Savoy Oil	.....	.....	.....	.....	.....	.....
26½	17	20	16½	10	Tidal Osage	300	17½	17½	16½	17	— 1
23¾	15	18	15½	10	do non-voting	400	16¾	16¾	15½	15½	0
92	63½	86	84⅝	100	Transcontinental pfd	500	89	92¼	89	91	+ 1
23¼	7	21½	18	10	Venezuela-Mexico	400	20¼	21	20½	21	0
7⅜	4¼	6¼	4⅞	5	Venezuelan Petrol	3,800	5⅝	5⅝	5½	5½	0
32⅝	19½	22⅞	21¼	N.P.	Wilcox Oil & Gas	500	21¾	21¾	21¾	21¾	0
8	4¾	7	6	$ 1	Woodley Petroleum	300	6⅞	6⅞	6⅛	6⅛	+ ⅝
6	1¾	2¾	2¼	25	Y Oil & Gas (new)	100	2½	2½	2½	2½	— ¼

*New High †New Low xEx Dividend